

NO. VII.—REPORT ON THE MARINE MOLLUSCA OBTAINED BY
MR. J. STANLEY GARDINER, F.R.S., AMONG THE ISLANDS OF
THE INDIAN OCEAN IN 1905.

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(Plate 5.)

Read 1st April, 1909.

THE Gastropoda and Pelecypoda collected in 1905 during the cruise of H.M.S. Sealark consist in great measure of species widely dispersed over the immense area of the Indo-Pacific region. The annexed table has been purposely drawn up so that the individual distribution, so far as is at present known, might be discerned at a glance, by a wide range of localities being given for comparison, extending from Natal and the Cape on the south-west to Japan on the north-eastern confines of that region. No opportunity seems to have been missed by the energetic explorers attached to the Expedition, but, apparently, the rough coral-ground and *Lithothamnia*- or *Halimeda*-rubble, which so often characterize the quality of the various soundings, are not conducive to the free growth of the more delicate and smaller molluscan organisms—*e. g.*, the Opisthobranchiata and members of the Rissoidæ or Pyramidellidæ. Nor is the large and important family Pleurotomidæ well represented, which, indeed, contributes so large a proportion of the species obtained further north in the same ocean—*e. g.*, by the dredging-results of H.M.S. ‘Investigator’ in the Bay of Bengal and elsewhere and those in the Persian Gulf and North Arabian Sea particularly associated with the name of Mr. F. W. Townsend.

But however this may be, some remarkably select and interesting forms are here enumerated, notably in the genera *Solariella*, *Mitra*, *Cypraea*, *Lambidium*, and *Terebra*. The genus *Turbo* likewise, with the Trochidæ, is remarkable for the number of specimens, as well as species, obtained. The recurrence of the genus *Struthiolaria* at the Seychelles is also very noteworthy, as it has hitherto been believed to be confined to New Zealand.

Amongst the Pelecypoda, *Cardium* and *Pecten* are both especially numerically strong in representatives, while, contrary to usual custom, but few Tellinidæ occur.

The Scaphopoda are but three in number, two being additions to the genus *Dentalium*.

Altogether between 465 and 475 are named in the accompanying catalogue, and of these, fifteen are characterized as new to science.

The classification adopted is mainly that of Dr. P. Pelseneer, as proposed in his ‘Introduction à l’étude des Mollusques,’ with modifications to some extent borrowed

from P. Fischer's 'Manuel de Conchyliologie,' of which comprehensive work, published in 1887, a new edition is beginning to be much wanted.

A brief bibliographical *résumé* is given at the end of this paper.

I would wish, in conclusion, to express my sense of Mr. Edgar Smith's kindness in providing every facility for the necessary comparisons of certain species with their accredited types at the British Museum (Natural History), and for his personal aid in the matter. I would also thank Mr. Stanley Gardiner, F.R.S., for having given me the opportunity to study a particularly interesting Fauna.

*Comparative Distribution of 470 Species of Mollusca recorded in Ten Subdivisions
of the Indo-Pacific Region.*

	No. of Species.
(i.) South and S.E. Africa, comprising the Cape of Good Hope to Natal, and northward to Portuguese E. Africa	184
(ii.) Mauritius, Bourbon, Rodriguez, and Madagascar	312
(iii.) Laccadive and Maldives Archipelago	169
(iv.) Red Sea and Aden	151
(v.) Persian Gulf, Gulf of Oman, and North Arabian Sea, including Bombay to Panjim and Goa	139
(vi.) Ceylon, with S. Hindostan, and Madras Coast	198
(vii.) Andaman Is., Bay of Bengal, Malaya, Sumatra, &c.	158
(viii.) Philippine Isles	287
(ix.) Polynesia, including E. New Guinea and N.E. Australia	229
(x.) Japan and Loo Choo Isles	185

It is natural that the closest affinity should exist with (ii.), which heads the list with 312 species in common, but more curious that the Philippine Region (viii.) should come next in order, with 287. This district, however, has been unusually well worked, and no doubt when (vi.) and (vii.) receive an equal amount of attention the numbers will be proportionately considerably augmented. It will be observed that (iv.) and (v.), embracing the northernmost portions of the Arabian Sea, the Red Sea, and the Persian Gulf, show the smallest ratio of community of species; and of these, the last-named, with the Gulf of Oman, has been very fully examined during the past ten or fifteen years, a total of 1620 species having been catalogued. It is therefore somewhat surprising to find that, so far as can be estimated with our present knowledge, but a twelfth part of these descend so far south as the Seychelles, Amirantes, or Chagos Archipelago.

	(i.)	S.E. and South Africa, C. G. H., Natal, and Zanzibar.	(ii.)	Mauritius, Bourbon, and Madagascar.	(iii.)	Laeccadive and Mal- dive Is.	(iv.)	Red Sea and Aden.	(v.)	Persian Gulf and N. Arabian Sea.	(vi.)	Ceylon and Madras Coast.	(vii.)	Andaman Isles and Malay Peninsula.	(viii.)	Philippine Isles.	(ix.)	Polynesia.	(x.)	Japan and Loo Choo Is.
<i>Patella pica</i> , Reeve																				
<i>Helcioniscus rota</i> (Gmel.)																				
<i>Glyphis rüppellii</i> (Sowb.)																				
" <i>singaporensis</i> (Reeve)																				
<i>Emarginula clathrata</i> , Ad. & Rve.																				
" <i>tenuicostata</i> , Sowb.																				
<i>Rimula exquisita</i> , A. Ad.																				
<i>Haliotis pustulata</i> , Reeve																				
" <i>(Padollus) ovina</i> , Chem.																				
<i>Stomatella angulifera</i> , A. Ad.																				
<i>Gena auricula</i> , Lam.																				
" <i>nigra</i> , Quoy																				
" <i>strigosa</i> , A. Ad.																				
<i>Liotia crenata</i> (Kien.)																				
<i>Trochus mauritanicus</i> , Gmel.																				
" <i>noduliferus</i> , Lam.																				
" <i>pyramis</i> , Born																				
" <i>(Infundibulum) maculatus</i> , L.																				
" <i>(—) radiatus</i> , L.																				
" <i>(—) venetus</i> , Rve.																				
<i>Clanculus marginarius</i> , Phil.																				
" <i>mauritanus</i> , sp. nov.																				
<i>Monodonta australis</i> , Lam.																				
<i>Calliostoma duplicatum</i> , A. Ad.																				
<i>Euthelus providentiae</i> , sp. nov.																				
<i>Solariella aquamarina</i> , sp. nov.																				
" <i>sayademalhana</i> , sp. nov.																				
" <i>incisura</i> , sp. nov.																				
<i>Gibbula phasianella</i> (Desh.)																				
" <i>(Forskål) pulcherrima</i> , A. Ad.																				
<i>Ethalia striolata</i> , A. Ad.																				
<i>Turbo marmoratus</i> , L.																				
" <i>(Senectus) argyrostomus</i> , L.																				
" <i>(—) intercostalis</i> , Menko																				
" <i>(—) radiatus</i> , Gmel.																				
" <i>(—) scutosus</i> , Gmel.																				
" <i>(—) tursicus</i> , Reeve																				
<i>Leptothyra gardineri</i> , sp. nov.																				
" <i>roscoecincta</i> , v. Mart.																				
<i>Phasianella ethiopica</i> , Phil.																				
<i>Nerita albicilla</i> , L.																				
" <i>histrio</i> , L.																				
" <i>plexa</i> , Chem.																				
" <i>plicata</i> , L.																				
" <i>polita</i> , L.																				
<i>Ncritina ualanensis</i> , Less.																				
" <i>rangiana</i> , Récluz.																				
<i>Ianthina fragilis</i> , Lam.																				
<i>Scala bulbulus</i> (Sowb.)																				
" <i>interstriata</i> (Sowb.)																				
" <i>pallasii</i> (Sowb.)																				
" <i>perplexa</i> (Pease)																				
<i>Eglisia elegans</i> , sp. nov.																				

	(i.)	(ii.)	(iii.)	(iv.)	(v.)	(vi.)	(vii.)	(viii.)	(ix.)	(x.)
<i>Conus (Coronaxis) hebreus</i> , L.		S.E. and South Africa, C. G. H., Natal, and Zanzibar.								
" (<i>—</i>) <i>miliaris</i> , Hw.										
" (<i>Puncticulus</i>) <i>arenatus</i> , Hw.										
" (<i>—</i>) <i>pulicarius</i> , Brug.										
" (<i>Nubecula</i>) <i>gubernator</i> , Brug.										
" (<i>—</i>) <i>tulipa</i> , L.										
" (<i>Dendroconus</i>) <i>querquinus</i> , L.										
" (<i>—</i>) <i>tessellatus</i> , Born.										
" (<i>Leptoconus</i>) <i>archithalassus</i> , Dillw.										
" (<i>Lithoconus</i>) <i>ermineus</i> , Dillw.										
" (<i>—</i>) <i>eximius</i> , Reeve.										
" (<i>—</i>) <i>flavidus</i> , Lam.										
" (<i>Rhizoconus</i>) <i>miles</i> , L.										
" (<i>—</i>) <i>pusillus</i> , Swains.										
" (<i>—</i>) <i>sulphuratus</i> , Brug.										
" (<i>—</i>) <i>rattus</i> , Hw.										
" (<i>—</i>) <i>vexillum</i> , Gmel.										
" (<i>Chelyconus</i>) <i>catus</i> , Brug.										
" (<i>Cylinder</i>) <i>archiepiscopus</i> , Hw.										
" (<i>—</i>) <i>aulicus</i> , L.										
" (<i>—</i>) <i>episcopus</i> , Hw.										
" (<i>—</i>) <i>textile</i> , L.										
" (<i>Hermes</i>) <i>nussatella</i> , L.										
<i>Pleurotoma bülowi</i> , Sowb.										
" <i>garnonsii</i> , Reeve.										
" <i>jickeli</i> , Weink.										
" <i>variegata</i> , Kien.										
<i>Drillia flavidula</i> (Lam.)										
" <i>variabilis</i> , Sm.										
" (<i>Clavus</i>) <i>exasperata</i> (Reeve)										
<i>Surcula bijubata</i> , Reeve.										
<i>Clathurella robillardii</i> , H. Ad.										
<i>Mangilia (Glyphostoma) roseotincta</i> , Montrouz.										
<i>Cancellaria (Merica) asperella</i> , Lam.										
" (<i>Euclia</i>) <i>lactea</i> , Desh.										
<i>Schizochiton incisus</i> (Sowb.)										
<i>Acanthochites laqueatus</i> (Sowb.)										
<i>Acanthopleura borbonica</i> (Desh.)										
<i>Dentalium gardineri</i> , sp. nov.										
" <i>gemmiparum</i> , sp. nov.										
" <i>pseudosexagonum</i> , Desh.										
<i>Atys (Alicula) cylindrica</i> (Helb.)	x									
<i>Bulla australis</i> , Q. & G.										
<i>Siphonaria atra</i> , Q. & G.										
<i>Area imbricata</i> , Brug.										
" <i>navicularis</i> , Brug.	x									
" (<i>Barbatia</i>) <i>decussata</i> , Sowb.	x									
" (<i>—</i>) <i>nivea</i> , Chem.	x									
" (<i>Acar</i>) <i>plicata</i> , Chem.	x									
" (<i>—</i>) <i>tenella</i> , Reeve.	x									
" (<i>Anadara</i>) <i>holoserica</i> , Reeve.	x									
" (<i>—</i>) <i>septicostata</i> , Reeve.	x									



	S.E. and South Africa, C. G. H., Natal, and Zanzibar. (i.)	Mauritius, Bourbon, and Madagascar. (ii.)	Laccadive and Mal- dives Is. (iii.)	Red Sea and Aden. (iv.)	Persian Gulf and N. Arabian Sea. (v.)	Ceylon and Madras Coast. (vi.)	Andaman Isles and Malay Peninsula. (vii.)	Philippine Isles. (viii.)	Polynesia. (ix.)	Japan and Loo Choo Is. (x.)
<i>Diplodonta globosa</i> (Forsk.)										
<i>Lucina</i> (<i>Codakia</i>) <i>interrupta</i> , Lam.	x : x : x : x : x : x : x : x : x : x : x									
“ (—) <i>punctata</i> (L.)	x : x : x : x : x : x : x : x : x : x : x									
“ (—) <i>exasperata</i> , Reeve	x : x : x : x : x : x : x : x : x : x : x									
<i>Galeomma splendida</i> , Desh.										
<i>Barclaya incerta</i> , Desh.										
<i>Tellina</i> (<i>Tellinella</i>) <i>rugosa</i> , Born	x : x : x : x : x : x : x : x : x : x : x									
“ (<i>Arcopagia</i>) <i>robusta</i> , Hanl.	x : x : x : x : x : x : x : x : x : x : x									
“ (—) <i>scobinata</i> , L.	x : x : x : x : x : x : x : x : x : x : x									
<i>Donax</i> (<i>Latona</i>) <i>abbreviatus</i> , L.										
“ (—) <i>faba</i> , Chemn.										
<i>Paphia glabrata</i> , Desh.										
“ <i>trigona</i> , Desh.										
<i>Circe scripta</i> (L.)										
<i>Crista pectinata</i> (L.)										
“ <i>gibba</i> (Lam.)										
<i>Lioconcha picta</i> (Lam.)										
<i>Callista costata</i> (Chemn.)										
“ <i>amirantium</i> , sp. nov.										
<i>Caryatis lata</i> (Chemn.)										
<i>Venus</i> (<i>Chione</i>) <i>lamarcckii</i> , Gray										
“ (—) <i>marica</i> , L.										
“ (—) <i>scabra</i> , Hanley										
“ (<i>Omphalocladrum</i>) <i>toreuma</i> , Gould										
<i>Cardium</i> (<i>Trachycardium</i>) <i>leucostoma</i> , Born										
“ (—) <i>maculosum</i> , Wood										
“ (—) <i>mauritianum</i> , Desh.										
“ (—) <i>serricostatum</i> , M. & St.										
“ (—) <i>transcendens</i> , M. & St.										
“ (<i>Papyridaea</i>) <i>australe</i> , Sowb.										
“ (<i>Fragum</i>) <i>crenelloides</i> , sp. nov.										
“ (—) <i>roseolum</i> , sp. nov.										
“ (—) <i>simillimum</i> , Smith										
“ (<i>Levicardium</i>) <i>biradiatum</i> , Brug.										
“ (<i>Ctenocardia</i>) <i>fornicatum</i> , Sowb.										
“ (—) <i>fragum</i> , L.										
“ (—) <i>nivale</i> , Reeve										
“ (—) <i>victor</i> , Angas										
<i>Hemicardium subrectum</i> , Sowb.										
<i>Tridacna elongata</i> , Lam.										
“ <i>gigas</i> , Lam.										
<i>Chama fibula</i> , Reeve										
“ <i>imbricata</i> , Brod.										
“ <i>lazarus</i> , L.										
<i>Asaphis deflorata</i> (L.)										
<i>Rocellaria mytiloides</i> (Lam.)										
<i>Verticordia deshayesiana</i> , Fisch.										

Table showing the Number of Species collected individually in each Group of Islands visited by H.M.S. 'Sealark,' in 1905.

	Spp.
A. Mauritius	2
B. Cargados-Carajos I.	68
C. Saya de Malha Banks	47
D. Providence I.	22
E. Amirantes I.	129
F. Seychelles and Coetivy I.	179
Aldabra I.	1
Farquhar Atoll	4
Chagos Archipelago	182

GASTROPODA.

Order PROSOBRANCHIATA.

Suborder i. DIOTOCARDIA.

(a) DOCOGLOSSA.

Family Patellidæ.

1. *Patella pica*, Reeve.

Patella pica, Reeve, Conch. Icon., *Patella*, fig. 45 (1854).

Patella chitonoides, id. ib. fig. 52.

Loc. Seychelles : Praslin I., on reefs and rocks.

2. *Helcioniscus rota* (Gmel.).

Patella rota, Chem. Conch.-Cab. x. p. 330, tab. 168, fig. 1619 ; Gmelin, Syst. Nat. vol. vi.

Patella scalata, Reeve, Conch. Icon., *Patella*, fig. 89.

Patella variegata, Reeve, Conch. Syst. tab. 136, fig. 1.

Patella petalata, Reeve, Conch. Icon. fig. 56.

Loc. Seychelles : Praslin I., with the preceding species.

Coetivy I.

(b) RHIPIDOGLOSSA.

Sect. i. ZYGOBRANCHIATA.

Family Fissurellidæ.

3. *Glyphis rüppellii* (Sowb.).

Fissurella rüppellii, Sowb. Conch. Illustr. fig. 75 ; Reeve, Conch. Icon. vi. *Fissurella*, fig. 54.

Loc. Amirantes : St. Joseph I.

Beach-worn specimens only, probably to be referred to this species, a not uncommon Mauritian mollusc.

4. *Glyphis singaporesis* (Reeve).

Fissurella singaporesis, Reeve, Conch. Icon. vi. *Fissurella*, fig. 100, 101.

Loc. Chagos Archipelago : Salomon I.

Coetivy I.

Family **Emarginulidæ**.5. *Emarginula clathrata*, Ad. & Rve.

Loc. Chagos Archipelago : Salomon I.

6. *Emarginula tenuicostata*, Sow.

Loc. Saya de Malha Banks : Station C 9, 145 fathoms, shell-rubble.

Coetivy I.

One example only was dredged at either place.

7. *Rimula exquisita*, A. Ad.

Loc. Amirantes : St. Joseph.

A very delicate and refined species, whose headquarters are the Philippine Islands.

Family **Haliotidæ**.8. *Haliotis pustulata*, Reeve

Loc. Saya de Malha Banks : Station C 16, 26 fathoms, with the preceding. A young shell only, but agreeing in both sculpture, form, and coloration with the Mauritian species.

9. *Haliotis (Padollus) ovina*, Chem.

Loc. Chagos Archipelago : Coin I., Peros Banhos.

Saya de Malha Bank : Station C 16, 26 fathoms, among living corals and rubble.

Sect. ii. AZYGOBRANCHIATA.

Family **Stomatellidæ**.10. *Stomatella angulifera*, A. Ad.

Loc. Amirantes : Station E 11, 25-30 fathoms, hard ground. Also Station E 13, 20-25 fathoms, *Halimeda*-rubble.

11. *Gena auricula* (Lam.).

Loc. Seychelles I.

12. *Gena nigra* (Quoy).

Loc. Coetivy I.

13. *Gena strigosa*, A. Ad.

Loc. Chagos Archipelago : at low tide, Barachois Maurice, south of Diego Garcia.

Family **Liotiidæ.**

14. *Liotia crenata* (Kien.).

Loc. Amirantes: St. Joseph I.

One or two specimens only, a little worn, but quite characteristic. Of wide distribution, ranging from the Philippines to Ceylon, but not yet recorded from Mauritius.

Family **Trochidæ.**

15. *Trochus (Pyramis) mauritianus*, Gmel.

Loc. Seychelles: Praslin I.

Coetivy I.

16. *Trochus (Pyramis) noduliferus*, Lam.

Loc. Coetivy I.

17. *Trochus (Pyramis) pyramis*, Born.

Loc. Seychelles: Praslin I.

Chagos Archipelago.

With this is included *T. (Pyramis) obeliscus*, Gmelin; the two appear synonymous.

18. *Trochus (Infundibulum) maculatus*, L.

Loc. Seychelles: Praslin I.

Coetivy I.

A variable, widely distributed species.

19. *Trochus (Infundibulum) radiatus*, Gmel.

Loc. Seychelles: Praslin I. (a form perhaps referable to *vividus*, Reeve).

Coetivy I.

20. *Trochus (Infundibulum) venetus*, Reeve.

Loc. Seychelles: Praslin I.

21. *Euchelus providentiae*, sp. nov. (Plate 5. fig. 1.)

E. testa rotundo-conica, umbilicata, carnea, solidula; anfractibus 6, quorum duo apicales parvi, laeves, caeteris ad suturas haud multum impressis, undique spiraliter aretissime geminato-nodulosis, nodulis parvis, uniformibus, nitidis, ultimo anfractu tridecum nodolorum ordinibus decorato; apertura rotunda, intus margaritacea, liratula, labro incrassato, intus crenulato, fere continuo; columella albo-margaritacea, profunde plano-callosa, conspicue basin versus unidentata.

Alt. 8, diam. 7 mm. (sp. maj.).

Loc. Providence I.

A roundly-conical, yellowish-pink *Euchelus*, everywhere closely grained with small gem-like nodules, spirally arranged; mouth roundish, within pearly, and strongly spirally lirate; peristome almost continuous, pearly, flushed with carneous pink, crenulate within; the callous, margaritaceous, flattened, columellar process ending in a blunt conspicuous tooth below the centre.

Two examples, the larger being selected for the type.

22. *Clanculus margaritarius*, Phil.*Loc.* Coetivy I.

Seychelles : Praslin I.

Amirantes : St. Joseph.

Chagos Archipelago : Barachois Maurice, Diego Gareia.

Allied to *C. unedo*, Ad.23. *Clanculus mauritianus*, sp. nov. (Plate 5. fig. 5.)

C. testa depresso-conica, pallide puniceo-brunnea, profunde sed anguste umbilicata; anfractibus 6–7, quorum apicales duo minuti, rugosi, cæteris, præcipue antepenultimo et penultimo, infra suturas angulatim gradatulis, ubique et arce 6-seriatim granulatis, tribus granorum ordinibus infra suturas conjunctim dispositis, tribus inferis, lineis spiralibus minutis interpositis, regione interstitiali oblique striata, simili modo anfractu ultimo usque ad peripheriam, ordinibus granorum linea spirali inter se separatis, infra peripheriam tridecim ordinibus conjunctim dispositis, puniceo tinetis et maculatis; apertura oblique rotunda, labro paullum effuso, intus 4–5-lirato, regione umbilicari paucierenata; columella infra plicatula, apud basin conspicue uniplicata.

Alt. 9, lat. 12 mm.

Loc. Mauritius : Station A 4, 500–600 fathoms.

A pale brownish-pink-coloured *Clanculus*, with obscure pink spotting basally, depressedly conical, narrowly umbilicate, the umbilical region coarsely crenate, six- or seven-whorled, the three lowest whorls possessing, firstly, three rows of close spiral fine granules followed by others which have a fine spiral line dividing them, the interstices being very finely obliquely striate. Next, on the last whorl, below the periphery, the many—about 13—spiral rows of granules are quite close together, with no intermediary lines. The mouth is obliquely rotund, outer lip a little effuse, with four or five spiral short liræ just within the orifice; columella plicatulate above, and with a strong tooth-like plait at the base. It is allied to *C. unedo*, A. Ad., and others of that section of the genus.

24. *Monodonta australis*, Lam.*Trochus labio australis*, Chemnitz, Conch.-Cab. xi. fig. 1890.*Loc.* Seychelles : Praslin I.25. *Calliostoma duplicatum*, A. Ad.*Loc.* Amirantes : Station E 2, 29 fathoms, algal rubble.

A small; elegant species, allied to the Indian *C. scobinatum*, A. Ad., endemic at Bombay. This latter, however, is very much larger and somewhat broader in contour.

26. *Gibbula phasianella* (Desh.).*Turbo phasianellus*, Desh. Moll. de Réunion, p. 74, pl. 8. figs. 11–13.*Margarita striatula*, Philippi (sed ubi descript.?).*Loc.* Amirantes : St. Joseph I.

A small, turbinoid shell, variously brightly coloured, in the markings resembling certain Phasianellæ or Neritinæ. Its occurrence in the Amirante Isles shows a northward extension of range; it has long been known to occur in the Mascarene Isles, and, under the name of *Margarita striatula*, Phil., is reported * from Lifu, Loyalty Islands.

27. *Gibbula (Forskålia) pulcherrima*, A. Ad.

Loc. Saya de Malha Banks: Station C 15, 55 fathoms.

Providence I.: Station D 1, 31 fathoms.

Amirantes: Station E 11, 25-80 fathoms.

Seychelles: Station F 3, 31 fathoms.

With this I group *G. fanuloides*, Fischer, which seems only a slight variety, with margin angled, owing to projecting nodules. The typical form has been well named by its author, for when fresh and perfect it is undoubtedly one of the more beautiful of the smaller Troehoids.

28. *Solariella aquamarina*, sp. nov. (Plate 5. fig. 2.)

S. testa depresso-conica, profunde umbilicata, omnino lœvissima, margaritacea, berylina, aquæ marinæ instar, nitida; anfractibus 6, quorum apicales tres parvi, acuti, albi, striatuli, eæteris ad suturas, canaliculatis antepenultimo juxta suturas supra erenellifero, penultimo et ultimo anfractu omnino lœvissimis, pulcherrime viridi-margaritaceis, ad peripheriam subangulato; apertura rotunda, peristome simpli-ciusculo, regione umbilicari minute et pulchre crenellifera, intus ad faucem umbilici spiraliter decussatim multilirata; operculo corneo, 6-7-spirali.

Alt. 6, diam. 11 mm.

Loc. Saya de Malha Banks: Stations C 4, 150 fathoms, C 6, 145 fathoms, oyster-shell-rubble ground.

A most exquisite species, with a slightly fugitive colour of pearly aquamarine or beryl. It is remarkably smooth, the only sculpture being the incised radiate sulculi around the umbilicus, and the fine spiral liration of the apical whorls. The peristome is remarkably thin and not in the least reflected. This species has all the appearance of an abyssal shell.

29. *Solariella incisura*, sp. nov. (Plate 5. fig. 3.)

S. testa parva, depresso-conica, nitida, opalino-margaritacea, profunde umbilicata; anfractibus 5, quorum apicales duo perparvis, tertio concentrica liratulo, penultimo supra minute crenulato et obscure liratulo, ultimo, in uno specimine fere lœvi, in altero spiraliter sub lente pauciliratulo; apertura rotunda, margaritacea, peri-stomate simplice, marginem apud columellarem triangulatim reflexo, basi circa umbilicum fortiter et profunde radiatim sulcata.

Alt. 2·5, diam. 4 mm.

Loc. Saya de Malha Banks: Station C 6, 145 fathoms, on shell-rubble ground.

Only two examples, and neither in very perfect condition, occurred of this beautiful

* Journ. of Conch. viii. p. 126 (1895).

little pearly *Solariella*, having all the appearance of a benthal molluse. The sculpture, as given above, varies a little in the two specimens, being more pronounced in the most broken example—the principal feature being the very strong and pronounced circlet of short sulcations, 13–14 in all, around the umbilicus. The specific name has been proposed in allusion to the very deeply cut incised umbilical radiations.

30. *Solariella (Conotrochus) sayademalhana*, sp. nov. (Plate 5. fig. 4.)

S. testa parva, profunde umbilicata, albo-straminea, conica; anfractibus 6–7, quorum 1½ apicales læves, vitrei, cæteris gradatulis, delicate multiliratis, lirulis tenuissimis, tribus magis conspicuis, longitudinaliter, præcipue apud suturas, radiatim arete crenatulis, basi tenuiter multilirata, ad umbilicum angulata, intus tenuissime longitudinaliter striata; apertura rotunda, peristomate tenui, margine collumellari haud reflexo.

Alt. 4, lat. 5 mm.

Loc. Saya de Malha Banks: Station C 4, 150 fathoms.

A delicate, small, many-lirate *Conotrochus*, allied to *S. variabilis*, A. Ad., and *singaporenensis*, Pilsbry, but not exactly agreeing with their definitions. The subgenus *Conotrochus*, while holding good for the species just mentioned, seems in some cases to merge very gradually into the typical *Solariella*.

31. *Ethalia striolata*, A. Ad.

Loc. Cargados Carajos: Station B 9, 30 fathoms.

32. *Phasianella aethiopica*, Phil.

Loc. Coetivy I.

33. *Turbo marmoratus*, L.

Loc. Aldabra I. (sp. max.).

Chagos Archipelago.

Seychelles: Praslin I.

34. *Turbo (Senectus) argyrostomus*, L.

Loc. Coetivy I.

Seychelles: Praslin I.

Chagos Archipelago.

This includes *T. articulatus*, Reeve, *elegans*, Phil., &c

36. *Turbo (Senectus) radiatus*, Gmel.

Loc. Saya de Malha Bank: Station C 15, 55 fathoms, among loose *Lithothamnia*-rubble.

37. *Turbo (Senectus) setosus*, Gmel.

Loc. Seychelles : Praslin I.

A very abundant species in this locality.

38. *Turbo (Senectus) tursicus*, Reeve.

Turbo tursicus, Reeve, Coneh. leon., *Turbo*, sp. 60.

Turbo turcicus, Sowerby, Thes. Coneh., *Turbo*, p. 200, pl. 8. fig. 75.

Turbo tursicus. Philippi, Coneh. Cat. editio ii. p. 83, pl. 19. fig. 5; Smith, Rep. Voyage H.M.S. 'Alert,' p. 504, pl. xliv. figs. U-U^a (1884).

Loc. Providence I.: Station D 4, 50-78 fathoms.

A rare species, the type coming from the Philippines. Allied to *T. spinosus*, Chem., but smaller, more elaborately sculptured, and of different colour-pattern.

39. *Leptothyra gardineri*, sp. nov. (Plate 5. fig. 6.)

L. testa anguste umbilicata, solida, turbinata, incrassata, albido-straminea, radiatim brunneo-suffusa ; anfractibus 5-6, gradatulis, quorum 2½ apieales minuti, cæteris undique fortiter costulis spiraliter præditis, duabus præcipue conspicuis, quarum superior regulariter maeulata, circa ultimi anfractus peripheriam, interstitiis tornatis, obscure longitudinaliter striatulis ; apertura rotunda, alba ; peristomate incrassato, albo, continuo, extus multi-crenulato.

Alt. 6·5, lat. 7 mm.

Loc. Coetivy I.

A compact species, of the section to which *L. amussitata*, Gould, *pitula*, Dkr., and *ponsonbyi*, Sowb., belong. It is much smaller than the first-named, far more pronounced in sculpture than the second, while it differs from *L. ponsonbyi* in its quadrate whorls, in marking, and in the nature of its spiral ripples or carinæ, which are somewhat irregular in size and relative distance from each other, but strong on the whole, and pronounced, tornate, the interstices longitudinally striate, the last whorl suffused with brown, while on the upper of the two more particularly conspicuous spiral keels at the periphery regularly placed dark brown spots are seen. The spire is gradate, mouth round, white ; peristome thickened, much crenulate without, continuous, white ; umbilical perforation narrow.

40. *Leptothyra roseocincta*, v. Mart.

Leptothyra roseocincta, E. von Martens, Mollusken der Mauritius und der Seychellen, p. 294, Taf. 20. fig. 22.

Loc. Cargados Carajos : Station B 2, 31 fathoms, among *Lithothamnia*- and weed-rubble.

A brightly-painted little shell, hitherto supposed to be endemic in Mauritius only.

Family **Neritidæ**.

41. *Nerita albicilla*, L.

Loc. Coetivy I.

Chagos Archipelago.

Most of the *Neritæ* here mentioned are of universal occurrence through the eastern tropical area and extending into warm temperate regions, *albicilla*, *plicata*, and *polita*, perhaps, being the most frequent.

42. *Nerita histrio*, L.

Loc. Chagos Archipelago.

43. *Nerita plexa*, Chem.

Loc. Chagos Archipelago.

Seychelles : Praslin I.

Coetivy I.

44. *Nerita plicata*, L.

Loc. Chagos Archipelago.

Seychelles : Praslin I.

45. *Nerita polita*, L.

Loc. Coetivy I.

Chagos Archipelago.

From the first-named locality (Coetivy) come a series of very finely-coloured varieties, ranging from pure white to deep black, with every intermediate of hue, crimson, orange, yellow, pink, and white striped, pink with green spiral band, and likewise spotted forms.

46. *Neritina ualanensis*, Lesson.

Neritina ualanensis, Lesson, Voyage de la 'Coquille,' Zool. p. 379.

Neritina mertoniana, Récluz, Proc. Zool. Soc. Lond. 1843, p. 71.

Loc. Amirantes : S. Joseph I.

Very widely distributed throughout the whole Eastern tropics; and, as Prof. E. von Martens well observes (Journ. Linn. Soc., Zool. xxi. (1889) p. 172), it "resembles somewhat *N. virginea*, L., from the West Indies, but is essentially distinct in the operculum; extremely variable in colours, usually ornamented with very fine dark lines on a shining greenish ground."

47. *Neritina rangiana*, Récluz.

Loc. Chagos Archipelago : Salomon I.

The Eastern exponent of the well-known West-Indian *N. viridis*, L.

Suborder ii. MONOTOCARDIA.

(a) PTENOGLOSSA.

Family Ianthinidæ.

48. *Ianthina fragilis*, Lam.

Loc. Saya de Malha Banks: Station C 6, 145 fathoms, shell-rubble bottom.
One incomplete specimen of the form *communis*, Lam. (sp.).

Family Scalidæ.

49. *Scala bulbulus* (Sowb.).

Scalaria bulbulus, Sowerby, Thes. Coneh. i. t. 34. fig. 85.

Loc. Saya de Malha Banks: C 6, 145 fathoms, shell-rubble bottom.

50. *Scala interstriata* (Sowb.).

Scalaria interstriata, Sowerby, Ann. & Mag. Nat. Hist. ser. 7, xvi. (1905) p. 190.

Loc. Saya de Malha Banks: C 6, 145 fathoms. The type came from Ceylon.

51. *Scala pallasii* (Sowb.).

Loc. Amirantes, Station E 5, 52 fathoms, sandy bottom.

52. *Scala perplexa* (Pease).

Loc. Amirantes: S. Joseph I.

Most probably but a variety of the Lamarckian *S. lamellosa*.

53. *Eglisia elegans*, sp. nov. (Plate 5. fig. 7.)

E. testa eleganter attenuata, albida, tenui, fere papyracea; anfractibus ad 18, ventricosis, apud suturas compressis, alveolatis, supernis tribus, deinde quatuor, penultimo et antepenultimio sex, ultimo anfractu septem carinulis praeditis, vix prominulis, fere aequalibus, superficie omni, praeter ad basin ipsam, regulariter et pulcherrime decussatim tenuilirata, liris arctis, papyraceis, carinas superjacentibus; apertura rotunda, labro tenui, marginem apud columellarem paullum incrassato, nitido, albo, basi subplanata, minute concentrice liratula.

Long. 30, lat. 7 mm.

Loc. Saya de Malha Banks: Station C 4, 150 fathoms.

The single example dredged, though imperfect, some of the upper whorls missing, is so entirely distinct from the very few species described of this restricted genus, that I venture to differentiate it.

From *E. tricarinata*, Ad. & Reeve, and *leptomita*, Melv. & Sykes, it differs both in texture, greater ventricosity of whorl, and especially in the far greater number of revolving spiral carinæ and papyraceous loose longitudinal caucellations.

(b) TÆNIOGLOSSA.

Sect. PLATYPODA.

Family Naticidæ.

54. *Natica chinensis*, Lam.

Loc. Saya de Malha Banks: C 2, 125 fathoms.

Amirantes: Station E 13, 20–25 fathoms.

55. *Natica gualteriana*, Récluz.

Loc. Chagos Archipelago.

56. *Natica orientalis*, Gmel.

Loc. Amirantes: Station E 5, 32 fathoms.

N. eburnea, Desh., is a synonym of this species.

57. *Natica raynaudiana*, Récluz.

Loc. Seychelles: Station F 8, 34 fathoms.

58. *Natica (Polinices) pes-elephantis*, Chem.

Loc. Seychelles: Station F 3, 39 fathoms, hard sand.

This species is frequently known by the name of *columellaris*, Récluz.

59. *Natica (Mamma) mamilla*, L.

Loc. Amirantes: Station E 9, 34 fathoms, shell-rubble.

Seychelles; Station F 2, 31 fathoms, shell-rubble.

Chagos Archipelago.

A mollusc of very wide distribution.

60. *Natica (Mamilla) melanostoma*, Gmel.

Loc. Chagos Archipelago.

61. *Natica (Mamilla) simiae*, Desh.

Loc. Farquhar Atoll: Lagoon.

Family Vanikoridæ.

62. *Vanikoro cancellata* (Chem.), Lam.

Loc. Chagos Archipelago.

For a full synonymy of this species, the type of the genus, I would refer to a paper published last year * by Mr. Edgar A. Smith, I.S.O. In this exhaustive account of a

* "On the known Species of the Genus *Vanikoro*, Q. & G.," by Edgar A. Smith, Proc. Mal. Soc. Lond. viii. (1908) p. 104.

most difficult genus, worked out mainly with the aid of the extensive series contained in our National Collection, many changes are proposed. May we hope that this invaluable paper is only the prelude to an illustrated monograph !

Family Hippomycidæ.

63. *Mitrularia equestris* (L.).

Loc. Amirantes : S. Joseph I.

64. *Mitrularia cicatricosa* (Reeve).

Loc. Seychelles : Praslin I.

M. tortilis, Reeve, seems synonymous. Tryon has united every form under the typical name *equestris*, L., but we think he has gone too far in his amalgamation, though, doubtless, far too many specific forms have been described.

65. *Amalthea australis* (Quoy).

Loc. Coetivy I., on *Phasianella*.

Seychelles : Praslin I., upon *Turbo argyrostomus*, L.

Chagos Archipelago : a distorted form, with shelly base, shell assimilating upper valve of a *Chama*.

Chagos Archipelago, Egmont I. : a smoothish variety, red-blotched.

Family Solariidæ.

66. *Solarium maximum*, Phil.

Loc. Saya de Malha Banks : Station C 12, 47 fathoms, shell-rubble and mud.

Only in young condition ; but without much doubt referable to this species, which, when well grown, attains a diametrical measurement of $2\frac{1}{2}$ inches.

67. *Solarium modestum*, Phil.

Loc. Seychelles : Station F 2, 31 fathoms, coral, sand, and *Lithothamnia*-rubble.

68. *Solarium perspectivum* (L.).

Loc. Amirantes : Station E 9, 34 fathoms, Polyzoa and shell-rubble.

69. *Solarium (Philippia) oxytropis*, A. Ad.

Loc. Amirantes : S. Joseph I.

The specimen (one only) is imperfect, but agrees with New Caledonian examples, so far as comparison can be made.

70. *Torinia dorsnosa* (Hinds).

Loc. Amirantes : Station E 6, 28 fathoms, *Pecten*-valve rubble.

71. *Torinia infundibuliformis* (Gmel.).

Loc. Coetivy I.

T. cylindracea, Hanley, is a synonym.

72. *Torinia variegata* (Gmel.).

Loc. Chagos Archipelago.

With this is grouped *T. perspectivinncula*, Dillwyn. The two forms are united by intermediates.

Family Littorinidæ.

73. *Littorina (Melaraphe) glabrata*, Phil.

Loc. Seychelles : Praslin I.

Chagos Archipelago : Egmont Atoll.

Tryon (Man. of Coneh. ix. p. 251) merges this well-marked species under *L. ziczac*, Chem., a shell which I have gathered in Cuba and other places in Antillean waters. Indeed, the original specimens of Philippi's *glabrata* were reported from Peru. Von Martens chronicles its occurrence in the Seychelles, Mauritius, Madagasear, Bourbon, south-eastern shores of Africa, and Ceylon. Personally, I consider it distinct from any form of *ziczac*.

74. *Littorina (Melaraphe) mauritiana*, Lam.

Loc. Chagos Archipelago.

Seychelles : Praslin I.

Inclusive of *L. lœvis*, Phil.

75. *Littorina (Melaraphe) melanostoma*, Gray.

Loc. Seychelles : Praslin I.

76. *Littorina (Melaraphe) scabra* (L.).

Loc. Amirantes : S. Joseph I.

Seychelles : Praslin I.

Chagos Archipelago : Coin I., Peros Banhos.

Var. *intermedia* (Phil., sp.).

Seychelles : Praslin I.

Amirantes : Poivre I.

In some specimens the whorls are rounded at the periphery, being typically keeled. This widely distributed molluse is found, in one or other of its forms, around the tropics everywhere, extending as far northward as Florida in the New World and Japan in the Old. The synonymy is extensive, and is given in Tryon, Man. Coneh. ix. pp. 243, 244, the best-known forms, perhaps, being *ahenea*, Reeve, *angulifera*, Lam., *lineata*, Gmel., *intermedia*, Phil., *filosa*, Sowb., *sieboldi*, Phil., and *nebulosa*, Lam.

Family Fossariidae.

77. *Fossarus lamellosus*, Montrouz.

Loc. Amirantes : S. Joseph I.

Seychelles : Praslin Island.

At both stations found attached to oysters.

Family Cerithiidae.

78. *Cerithium amirantium*, Sm.

Cerithium amirantium, E. A. Smith, Rep. Voy. H.M.S. 'Alert,' p. 501, pl. 44, fig. R (1884).

Loc. Amirantes : Station E 11, 25-80 fathoms ; hard rough ground.

One dead example, not in good condition, but seemingly agreeing in configuration with this endemic species. In fresh state it is of a pink colour.

79. *Cerithium citrinum*, Sowb.

Loc. Coetivy I.

Chagos Archipelago.

80. *Cerithium columna*, Sowb.

Loc. Seychelles : Praslin I.

Chagos Archipelago.

81. *Cerithium echinatum*, Lam.

Loc. Seychelles : Praslin I.

Coetivy I.

Amirantes : Station E 18, 280 fathoms (one specimen) on *Lithothamnia*-rubble bottom.

Chagos Archipelago.

Seemingly a very abundant species, as are *citrinum*, *columna*, *fasciatum*, *kochi*, and *morus*.

82. *Cerithium tacteum*, Kien.

Loc. Coetivy I.

83. *Cerithium morus*, Lam.

Loc. Amirantes : S. Joseph Atoll.

In very poor worn condition, small or broken examples. This most common and variable species possesses a long synonymic list, the principal variety being *C. variegatum*, Quoy, rightly, we think, incorporated with *morus*, Lam., by Mr. Edgar Smith (Rep. Zool. Coll. H.M.S. 'Alert,' p. 63).

84. *Cerithium petrosum* (Wood).

Loc. Chagos Archipelago : Diego Garcia, Barachois Maurice.

Seychelles : Praslin I.

Closely allied to the last species (*C. morus*, Lam.), and incorporated with it by some authors. This is probably *C. tuberculatum*, L.

85. *Cerithium piperitum*, Sowb.

Loc. Coetivy I.

Seychelles: Praslin I.

86. *Cerithium rostratum*, Sowb.

Loc. Coetivy I.

Seychelles: Praslin I.

87. *Cerithium (Vertagus) articulatum*, Ad. & Reeve.

Loc. Chagos Archipelago.

Amirantes: S. Joseph I.

By Tryon (Man. Conch. ix. p. 146) this Eastern species is considered conspecific with *C. gemmatum*, Hinds, from the West Coast of Central America.

88. *Cerithium (Vertagus) asperum* (L.).

Murex asper, Linné, Syst. Natur. xii. 1226.

Strombus vibex, Gmelin, Syst. Natur. xiii. 3522.

Cerithium lineatum, Lamarek, Enc. Méth. t. 443. fig. 3 a, b.

Clava rugata, Mart. Univ. Conch. t. 12.

Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.

Seychelles: Praslin I.

Amirantes: S. Joseph I.

89. *Cerithium (Vertagus) cedo-nulli*, Sowb.

Loc. Coetivy I.

Distinct, in my opinion, from *C. obeliscus*, Brug., to which it is by some authors united. A refined and beautiful species.

90. *Cerithium (Vertagus) fasciatum*, Brug.

Loc. Seychelles: Station F 2, 31 fathoms.

The plain, unbanded form only. Includes the larger *C. martinianum*, Pfr., occurring at Providence I., Station D 1, 31 fathoms.

91. *Cerithium (Vertagus) kochii*, Phil.

Loc. Cargados Carajos: Station B 13, 30 fathoms.

Amirantes: Station E 18, 280 fathoms.

Very widely distributed throughout the Indian Ocean, but not yet recorded from the Eastern Archipelago or Philippines.

92. *Cerithium (Vertagus) obeliscus*, Brug.

Loc. Coetivy I.

Seychelles: Station F 2, 31 fathoms, coral and other rubble.

Chagos Archipelago.

93. *Cerithium (Vertagus) tenuisculptum*, Sowb.

Loc. Chagos Archipelago.

Near *C. articulatum*, Reeve, but seemingly distinct.

94. *Potamides (Tympanotonos) palustris* (L.).

Loc. Seychelles: Praslin I.

Inhabiting brackish waters and swamps.

95. *Triphora* complanata*, Preston.

Loc. Amirantes: S. Joseph I.

Agreeing with typical *complanata* in sculpture, but slightly different in form. Type Ceylonese.

96. *Triphora corrugata* (Hinds).

Loc. Cargados Carajos: B 13, 30 fathoms, coarse coral-rubble and sand.

97. *Triphora sculpta* (Hinds).

Loc. Cargados Carajos: Station B 29, 47 fathoms, rough bottom.

98. *Triphora (Mastonia) coetivensis*, sp. nov. (Plate 5, fig. 8.)

T. testa medioeri, compaeta, solidula, pupoidea, cinereo-brunnea, versus apicem attenuata; anfractibus ad 14, quorum apicales ipsi duo asperi, albo-vitrei, quatuor his proximis duobus ordinibus tuberculatis, cæteris tribus, ultimo quinque spiraliter instructis, tuberculis rotundis, nitidis, albo-cinereis; apertura fere rotunda, labro crenulato, tenui, brunneo tincto, canali breviter rostrato.

Long. 13, lat. 4 mm.

Loc. Coetivy I.

An ashy-brown little *Triphora*, evenly spirally tubercled throughout with shining small gemmæ, of a compact growth, attenuate towards the apex, otherwise robust; on the upper whorls the spiral rows are alternately straw-coloured and grey, the lower whorls, however, are of a uniform dull grey, the orifice being tinged with brown, as is the shortly beaked canal.

From figures and descriptions this species must be near *T. funebris*, Jouss., from New Caledonia, and *T. intermedia*, C. B. Ad., from the Antilles.

99. *Triphora (Viriola) trilirata* (Desh.).

Triforis triliratus, Desh. Moll. Réunion, tab. xi. fig. 27.

Triforis incisus, Pease, var. *triliratus*, Desh., Tryon, Man. Conch. ix. 190, pl. 39, fig. 65.

Loc. Coetivy I.

One specimen, agreeing with description and figure of the above.

* For the use of *Triphora* instead of the familiar *Triforis*, *c.f.* C. Hedley, Proc. Linn. Soc. N. S. Wales, xxvii. (1903) pp. 608 sqq.

Family Planaxidæ.

100. *Planaxis lineolatus*, Gould.

Loc. Amirantes : S. Joseph Atoll.

United, with many other so-called species, by Tryon to the West Indian *P. lineatus*, Da Costa.

Mr. E. A. Smith has identified an allied species from the Maldivé Isles * as *P. ineptus*, Gould.

101. *Planaxis pyramidalis* (Gmel.).

Loc. Chagos Archipelago : Salomon Anglaise.

Probably a variety of the next.

102. *Planaxis sulcatus* (Born).

Loc. Chagos Archipelago : Salomon.

Var. *savignyi*, Desh.

Loc. Chagos : Diego Garcia, Barachois Maurice.

Amirantes : S. Joseph I.

Variable, but very widely diffused.

Family Xenophoridæ.

103. *Xenophora corrugata*, Reeve.

Loc. Cargados Carajos : Station B 9, 30 fathoms.

Amirantes : Stations E 2, 29 fathoms, E 10, 22-85 fathoms, E 16, 39 fathoms, all rough coral or *Lithothamnia* bottom.

104. *Xenophora solariooides* (Reeve).

Loc. Amirantes : Station E 6, 28 fathoms, Polyzoa-rubble.

Seychelles : Stations F 2, 31 fathoms, coral-rubble, F 3, 39 fathoms, and F 6, 44 fathoms, both hard sand.

105. *Xenophora (Tugurium) indica* (Gmel.).

Loc. Seychelles : Station F 3, 39 fathoms, hard sand.

One example, not adult.

Family Modulidæ.

106. *Modulus tectum* (Gmel.).

Loc. Amirantes : S. Joseph I.

In local plenty.

* Gardiner, J. S., 'Fauna and Geogr. of Maldivé and Laccadive Archipelagoes, Mollusca,' by E. A. Smith, p. 615.

Family **Turritellidæ.**

107. *Turritella (Haustator) columnaris*, Kien.

Loc. Saya de Malha Banks: Station C 1, 150 fathoms, white coral rubble, &c.

Amirantes: Station E 8, 33 fathoms, hard sand.

Only fragmentary examples from the first-named station.

108. *Turritella (Torcula) concava*, v. Mart.

Turritella concava, v. Martens, Beitr. Meersf. Mauritius und Seychellen (Möbius), p. 283, Taf. xx. fig. 19 (1880).

Loc. Amirantes: Station E 21, 30 fathoms, on ground consisting of quantities of *Halimeda*- and *Lithothamnia*-rubble.

Two specimens. Hitherto considered endemic in Mauritius, where it was discovered by M. Robillard. An interesting extension of range.

Family **Vermetidæ.**

109. *Vermetus (Thylacodes) inoperlus*, Rüppell.

Loc. Cargados Carajos.

This is identified with a little doubt as synonymous with *V. erica*, Lamarck.

110. *Vermetus (Siphonium) maximus*, Sowb.

Loc. Chagos Archipelago: Salomon.

111. *Vermetus (Siphonium)* sp.

Loc. Seychelles: Praslin I.

A species I cannot identify with certainty bears some resemblance to the variable *V. centriquadrus*, Valenc., which is, typically, a Western American species.

Besides this, several specimens also occurred at Coetivy I. of a small species, with very friable shell, evidently found imbedded in corals, with remarkably large horny operculum proportionately speaking. Probably not adult, and difficult to name.

Family **Strombidæ.**

112. *Strombus (Euprotomus) laciniatus* (Chemn.), Dillw.

Loc. Amirantes: Station E 13, 20 to 25 fathoms, on rubble covered with *Halimeda* and calcareous Algae.

One fine example.

113. *Strombus (Euprotomus) papilio* (Chemn.), Dillw.

Loc. Cargados Carajos: Station B 24, 30 fathoms, sand and weed.

Amirantes: Stations E 16, 39 fathoms, E 21, 30 fathoms.

Seychelles: Praslin I.; Stations F 7, 34 fathoms, F 8, 34 fathoms, both sand bottom.

One of the less frequent of the *Strombi*, and a shell of great beauty. Specimens in all stages of growth were collected at the various stations given above.

Recorded from Mauritius (*von Martens*), but not hitherto from either the Seychelles, Amirantes, or Chagos Archipelago.

114. *Strombus (Gallinula) columba*, Lam.

Loc. Cargados Carajos : Stations B 8, 30–32 fathoms, B 9, 30 fathoms, B 16, 30 fathoms, B 17, 30 fathoms.

Saya de Malha Banks : Stations C 4, 123 fathoms, C 12, 47 fathoms.

Amirantes : Stations E 5, 32 fathoms, E 6, 28 fathoms, E 8, 33 fathoms, E 9, 34 fathoms, E 21, 30 fathoms.

Seychelles : Stations F 5, 44 fathoms, F 6, 44 fathoms, F 8, 34 fathoms.

Var. *orosminus*, Duclos.

Loc. Cargados Carajos : Stations B 14, 30 fathoms, B 15, 30 fathoms.

Not yet, apparently, recorded from Mauritius, though one of the most abundant Gastropods in the regions traversed by the 'Sealark.'

115. *Strombus (Gallinula) fusiformis*, Sowb.

Loc. Amirantes : Station 21, 30 fathoms.

Seychelles : Stations F 2, 31 fathoms, F 7, 34 fathoms, F 8, 34 fathoms.

Not mentioned as an inhabitant of Mauritian seas. Nor is it included by M. Dautzenberg in his list of the Mollusca of the Seychelles *, but it is by no means infrequent in the Gulf of Oman and Persian Gulf (*Townsend*).

116. *Strombus (Canarium) floridus*, Lam.

Loc. Chagos Archipelago.

117. *Strombus (Canarium) gibberulus*, L.

Loc. Chagos Archipelago.

But few specimens were collected.

This and the preceding (*floridus*) are the most widely distributed of the Eastern *Strombi*.

118. *Strombus (Conomurex) mauritianus*, Lam.

Loc. Chagos : Diego Garcia lagoon.

This is the *S. cylindricus*, Swainson.

119. *Seraphs terebellum*, Montf.

Terebellum subulatum (Klein), Lam.

Loc. Cargados Carajos : Stations B 16 at 30 fathoms, B 17, 30 fathoms.

Amirantes : Station E 9 at 34 fathoms.

Seychelles : Stations F 2 at 31 fathoms, F 5, 44 fathoms.

* Bull. Soc. Zool. de France, xviii. (1893) pp. 78 sqq.

The var. *punctata* occurs at the latter station.

A monotypic molluse (as recent), very widely dispersed throughout the Indo-Pacific region.

120. *Pterocera aurantia*, Lam.

Loc. Seychelles : Stations F 2, 31 fathoms, coral-, shell-, and *Lithothamnia*-rubble, F 7, 34 fathoms, sand, with weed.

121. *Pterocera lambis* (L.).

Loc. Cargados Carajos : Station B, 30 fathoms.

The type of the genus, and one of the most abundant of Eastern mollusca.

122. *Pterocera rugosa*, Sowb.

Loc. Chagos Archipelago.

Family **Struthiolariidæ**.

123. *Struthiolaria papulosa* (Martyn).

Loc. Seychelles.

It is surprising to find two specimens of this genus, hitherto considered endemic in Neo-Zealandic Seas, labelled as found in the Seychelles. One of these is typical *papulosa*, the other more referable to the form *straminea* (Gmel.) [*Murex stramineus*, Gmel.].

Family **Cypræidæ**.

124. *Cypræa annulus*, L.

Loc. Seychelles : Praslin I.

Chagos Archipelago.

125. *Cypræa caput-serpentis*, L.

Loc. Chagos Archipelago.

126. *Cypræa carneola*, L.

Loc. Farquhar Atoll Lagoon.

Amirantes : Station E 9, 34 fathoms.

Coetivy I.

Chagos Archipelago : Salomon, 60 fathoms.

A very pale whitish variety also occurred at Providence I.

127. *Cypræa caurica*, L., var. *oblongata*, Melv.

Loc. Seychelles : Praslin I.

128. *Cypræa clandestina*, L.

Loc. Chagos Archipelago.

129. *Cypraea chinensis*, Gmel.

Cypraea chinensis, Gmelin, Syst. Nat. ed. xiii. p. 3421 (1790).

Cypraea variolaria, Lamarck, Ann. Mus. xvi. (1810) p. 91.

Cypraea cruenta, auct. plur. non Gmelin.

Loc. Saya de Malha Banks: Station C 15, 55 fathoms.

Seychelles: Station F 8, 34 fathoms.

I follow Prof. J. G. Hidalgo's views as to the nomenclature of this species, which has been almost universally known as *C. cruenta*, Gmel. Gmelin, however, in 1790 thus re-named *C. errones*, Linné, 1758, and the name *cruenta* therefore falls.

130. *Cypraea contaminata*, Gray.

Loc. Seychelles: Station F 5, 44 fathoms.

Coetivy I.

The specimen from the last-named island is in remarkably fine condition. Always a rare species. Prof. Hidalgo * names Pulo-Condor, the Philippine and Loyalty Isles as the only known localities. The discovery of these specimens in the Sealark Expedition therefore extends the range of distribution immensely to the south westward.

131. *Cypraea cibraria*, L.

Loc. Cargados Carajos: Station B 20, 28 fathoms.

132. *Cypraea fimbriata*, Gmel.

Loc. Amirantes: Stations E 11, 25–80 fathoms, E 13, 20–25 fathoms.

133. *Cypraea helvola*, L.

Loc. Cargados Carajos: Stations B 3, 30 fathoms, sandy bottom, B 19, 28 fathoms, coarse coral rubble.

Amirantes: Stations E 2, 29 fathoms, E 9, 31 fathoms, E 11, 25–80 fathoms, E 13, 20–25 fathoms, E 21, 30 fathoms, mostly *Halimeda*- and *Lithothamnia*-rubble.

Seychelles: Stations F 2, 31 fathoms, F 7, 34 fathoms, Coetivy I.

Chagos Archipelago.

Var. *mascarena*, Melv. (? *chalcedonia*, Perry).

Loc. Chagos Archipelago.

At the Cargados Station (B 3) an unnamed variety, subtransparent, of a pinkish-yellow hue, occurred. The examples, also, of the variety *mascarena*, of remarkable depth of colour and brilliancy, from the Chagos Archipelago prompt one to the belief that here the species reaches its highest development.

It is never a common species on the coast of Hindustan, though reported from Madras and the island of Ceylon. It is likewise an inhabitant of the Laccadive and Maldives Islands, of the Andamans, and, further eastward, of Siam, Penang, Cochinchina, China,

* Hidalgo, Monografia Esp. viv., gen. *Cypraea*, 1906, p. 194.

Formosa, and Japan. Fairly generally diffused over the East Indian islands, including New Caledonia, the Kingsmill Group, as far north as the Marianne Isles. Lastly, the E. African coasts, with Madagascar and the Mascarene Isles, harbour it, ranging to Socotra I. and the Red Sea, at this last rarely. It does occur, too, in Natal and at the Cape of Good Hope.

134. *Cypraea hirundo*, L.

Loc. Coetivy I.

Chagos Archipelago.

Renamed by Hidalgo *C. kieneri**, as he considers *C. neglecta*, Sowb., to be the true *C. hirundo*, Linn.

135. *Cypraea histrio*, Meusch.

Loc. Coetivy I.

Chagos Archipelago.

From the latter station a fine variety was collected, with blurred and confused dorsal pattern.

Var. *gillei*, Jousseaume.

Cypraea intermedia, Redfield (non Kiener).

Loc. Seychelles: Praslin I.

I hardly agree with Prof. Hidalgo that *C. gillei*, Jouss., can stand on its own merits, specifically speaking. It appears to be an abbreviated variety only, much thickened laterally with free deposit of enamel, the markings dorsally being those of *histrio*.

136. *Cypraea isabella*, L.

Loc. Chagos Archipelago.

137. *Cypraea lynx*, L.

Loc. Coetivy I.

Chagos Archipelago.

From Coetivy came only small examples: they are finer in every way at Chagos.

138. *Cypraea moneta*, L.

Loc. Providence I.: Station D.

Seychelles: Praslin I.

Chagos Archipelago: Diego Gareia, Barachois Maurice (var. *icterina*, Lam.).

The varieties of this abundant cowrie so run into each other that it is well nigh impossible to catalogue them correctly, though the attempt has been made by Rochebrune†. At Chagos, besides the var. *icterina*, Lam., which is a large, smooth, oblong, whitish form, there occurs a smaller, yellow, wrinkled variety, and one with uniform deep yellow-brown glaze.

* Hidalgo, Monografia Esp. viv., gen. *Cypraea*, 1906, p. 392.

† "Monographie des formes appartenant au genre *Monetaria*," Bull. Soc. Mal. France, tome i. pp. 73-162 (1884).

139. *Cypraea neglecta*, Sowb.

Loc. Coetivy I.

Chagos Archipelago.

As already mentioned, according to Prof. Hidalgo, this is the true *C. hirundo*, L., the species which is generally known under that name, being re-named *C. kieneri*, Hid., 1906 (Mon. Cyp. viv. pp. 177, 379, 392).

140. *Cypraea onyx*, L.

Loc. Cargados Carajos : Station B 24, 30 fathoms.

Amirantes : Stations E 5, 32 fathoms, E 12, 32 fathoms, coral-rubble.

This is *C. adusta*, Chemn.

141. *Cypraea reticulata*, Martyn.

Loc. Seychelles : Praslin I.

Chagos Archipelago.

Intermediate between *C. arabica*, L., and *histrio*, Meusch.

142. *Cypraea scurra*, Chemn.

Cypraea scurra, Chemn. Conchyl.-Cab. x. p. 103, tab. 114, fig. 1338 (1788).

Cypraea amarata, Meusch. Mus. Gevers. p. 401 (1787).

Cypraea indica, Gmel., Syst. Nat. ed. xiii. p. 3412 (1790).

Loc. Chagos Archipelago, rarely.

Hidalgo gives precedence to *C. amarata*, Meusch., over the well-known name *scurra*; but it is a question whether Meuschen's species were properly diagnosed, and many authors do not recognise them.

143. *Cypraea tabescens*, Dillw.

Cypraea tabescens, Dillwyn, Cat. Shells, i. p. 466 (1817).

Cypraea punctulata, Gmel. Syst. Nat. ed. xiii. p. 3404 (1790), non Gray (1824).

Loc. Seychelles : Praslin I.

The resuscitation of Gmelin's name would plunge the nomenclature into confusion : hence I do not follow Prof. Hidalgo in this instance. The West American shell known for the past eighty-five years as *punctulata*, Gray, is now re-christened *robertsi*, Hid.*.

144. *Cypraea talpa*, L.

Loc. Chagos Archipelago.

145. *Cypraea testudinaria*, L.

Loc. Chagos Archipelago : Peros Banhos, Coin.

146. *Cypraea tigris*, L.

Loc. Seychelles : Praslin I.

Chagos Archipelago : Peros Banhos, Coin.

Several colour-varieties occurred, e. g. *flavo-nitens* and *lynceichroa*, Melv.

* Hidalgo, Monografia exp. viv., gen. *Cypraea*, 1906, p. 501.

147. *Cypraea virellus*, L.

Loc. Chagos Archipelago: Peros Banhos, Coin.

Including a very gigantic example measuring $3\frac{1}{2} \times 2$ inches.

148. *Cypraea walkeri*, Gray.

Loc. Cargados Carajos.

Amirantes: Stations E 5, 32 fathoms, E 9, 34 fathoms, E 13, 20–25 fathoms.

Seychelles: Station F 7, 34 fathoms, sand and weed (sp. juv.).

An uncommon and beautiful species, some very select examples having been dredged, especially in the Amirante Islands.

149. *Cypraea ziczae*, L.

Loc. Amirantes: Station E 9, 34 fathoms.

150. *Cypraea (Trivia) globulus*, L.

Loc. Amirantes: S. Joseph I.

Chagos Archipelago.

151. *Cypraea (Trivia) insecta*, Mighels.

Loc. Amirantes: S. Joseph I.

Coetivy I.

This is *C. hordeacea*, Kiener (Cypraea, p. 149, tab. liv. fig. 5).

152. *Cypraea (Trivia) nucleus*, L.

Loc. Coetivy I.

153. *Cypraea (Trivia) oryza*, Lam.

Loc. Amirantes: S. Joseph I.

Coetivy I.

154. *Cypraea (Trivia) staphylea*, L.

Loc. Coetivy I.

Chagos Archipelago: Diego Garcia.

A small variety only from the latter locality. I consider *C. limacina*, Lam., but, at best, a subspecies, Hidalgo favouring it with full specific rank. The extremes may be dissimilar, but every form of intermediate occurs.

155. *Amphiperas dentatus* (Ad. & Reeve).

Loc. Providence I.

156. *Amphiperas ovum* (L.).

Loc. Seychelles: Praslin I.

157. *Birostra longirostrata* (Sowb.).

Ovulum longirostratum, Sowerby, Spec. Couch. i. tab. 48, fig. 16 (1830).

Loc. Saya de Malha Banks. Owing to accidental transpositions of label, a little uncertain.

I possess the original type of this species, from the I. Bourbon; it is not, as wrongly advertised by Paetel *, an inhabitant of the Adriatic and Mediterranean Seas.

158. *Birostra subreflexa* (Ad. & Reeve).

Loc. Amirantes: Station E 12, 32 fathoms, coral-rubble.

Also recorded from the Persian Gulf (*F. W. Townsend*, 1906).

159. *Birostra volva* (L.).

Loc. Saya de Malha Banks: Station C 15, 55 fathoms, on loose *Lithothamnia*-rubble.

One specimen only of a beautiful variety, dorsally smooth, delicate, thin, light pink, extremities orange-tipped.

Family Doliidæ.

160. *Dolium costatum*, Menke.

Loc. Cargados Carajos, 30 fathoms.

161. *Dolium maculatum*, Lam.

Loc. Seychelles: Station F 6, 44 fathoms.

One young specimen. Tryon (Man. Conch. vii. p. 261) considers this well-marked species a variety merely of *costatum*, Menke.

162. *Dolium olearium*, Brug.

Loc. Seychelles: Praslin I., Station F 2, 31 fathoms, on coral, sand, and *Lithothamnia* rubble.

Chagos Archipelago: Peros Banhos, Coin.

163. *Dolium perdix* (L.).

Loc. Chagos Archipelago.

Typical, in company with an unmottled variety. The distribution of this species is very wide and extended. I have gathered it myself in the West Indies, and it seems common throughout the whole range of the Eastern tropics.

164. *Dolium (Malea) pomum* (L.).

Loc. Amirantes: Station E 9, 34 fathoms, Polyzoa and shell-rubble.

165. *Pyrula ficus* (L.).

Loc. Saya de Malha Banks: Station C 2, 123 fathoms.

This is *Ficula laevigata*, Reeve.

166. *Pyrula ficoides*, Lam. [= *reticulata*, Reeve, non Lam.]

Loc. Cargados Carajos, 30 fathoms.

* *Vide* Cat. Conehyl. Samml. i. p. 327.

Family **Cassididæ.**

167. *Cassis (Cypræcassis) rufa* (L.).

Loc. Coctivy I.

Chagos Archipelago : Peros Banhos, Coin.

168. *Cassis (Semicassis) pila*, Reeve.

Loc. Amirantes : Station E 9, 34 fathoms, shell-rubble.

Seychelles : Station F 3, 39 fathoms, hard sand.

169. *Cassis (Bezoardica) plicata* (L.) [= *plicaria*, Lam.].

Loc. Chagos Archipelago.

170. *Cassis (Casmaria) vibex* (L.).

Loc. Chagos Archipelago.

171. *Cassis (Casmaria) torquata*, Reeve.

Loc. Saya de Malha Banks : Station C 15, 55 fathoms.

Amirantes : Station E 5, 32 fathoms.

172. *Lambidium (Oniscidia) exquisitum* (Ad. & Reeve).

Oniscia exquisita, Adams & Reeve, Voy. Samarang, p. 35, pl. 5. fig. 3 a-b.

Oniscia exquisita, Reeve, Conch. Icon. v. *Oniscia*, sp. 3.

Loc. Saya de Malha Banks : Station C 15, 55 fathoms, loose *Lithothamnia*-rubble.

One specimen only, in not very perfect condition, of this rare species, known by its pink lip, the granulations thereon being white. In form very similar to *L. cancellatum* (Sowb.). *Lambidium*, Link, 1807, as pointed out by Mr. Edgar Smith *, has precedence of seventeen years over *Oniscia*, Sowerby, 1824.

This species was first found in the Sulu Sea at 16–20 fathoms (*Belcher*) ; and therefore its discovery at Saya de Malha shows a very considerable extension of range.

Family **Tritonidæ. (Lotoriidæ.)**

173. *Lotorium chlorostoma* (Lam.).

Loc. Chagos Archipelago.

174. *Lotorium pileare* (L.).

Loc. Cargados Carajos : Stations B 3, 30 fathoms, sandy bottom ; B 24, 30 fathoms, sand and weed.

175. *Lotorium (Gutturnium) clavator* (Lam.).

Loc. Amirantes : Station E 8, 33 fathoms, hard sand.

L. gallinago, Reeve, seems very near this species.

* J. Malac. (1895) pp. 11–14.

176. *Lotorium (Gutturnium) exaratum* (Reeve).
Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.
 In worn and almost unrecognizable condition.
177. *Lotorium (Gutturnium) moritinctum* (Reeve).
Loc. Seychelles: Station F 8, 34 fathoms, sand, shell, with weed.
178. *Lotorium (Gutturnium) sinense* (Reeve).
Loc. Cargados Carajos: Stations B 8, 30 fathoms, B 11, 30-33 fathoms.
179. *Colubraria nitidula* (Sowb.)
Loc. Chagos Archipelago.
180. *Distorsio anus* (L.). [*Persona*.]
Loc. Chagos Archipelago.
181. *Distorsio cancellina* (Roiss.). [*Persona*.]
Loc. Cargados Carajos: Stations B 13, B 15, both at 30 fathoms, shelly bottom.
 Amirantes: Stations E 5, 32 fathoms, sandy, with much *Cymodocea*; E 6,
 28 fathoms, Polyzoa and shell-rubble.
 Seychelles: Station F 3, 39 fathoms, hard sand.
182. *Gyrineum affine* (Brod.). [*Ranella*, Lam.]
Loc. Chagos Archipelago.
183. *Gyrineum bergeri* (Sowb.).
Loc. Amirantes: Station E 12, 32 fathoms, coral-rubble.
 Providence I.
 N.B.—*G. thomae*, D'Orb., seems too near this species to be separable; if so, that name
 has priority.
184. *Gyrineum bufonium* (Gmel.).
Loc. Seychelles: Praslin I.
185. *Gyrineum graniferum* (Lam.).
Loc. Seychelles: Praslin I.
 Coetivy I.
 Exceedingly widely diffused throughout the Eastern tropics.
186. *Gyrineum margaritula* (Desh.).
Loc. Amirantes: Station E 5, 32 fathoms.
187. *Gyrineum pusillum* (Brod.), var. *rosea*, Reeve.
Loc. Amirantes: Station E 2, 29 fathoms.

188. *Gyrineum (Lampas) lampas* (L.).

Loc. Providence I.: Station D 3, 29 fathoms, coral-rock.

Amirantes, 30–32 fathoms.

By some authors (*e. g.* von Martens) placed in *Lotorium*.

(c) GYMNOGLOSSA.

Family EULIMIDÆ.

189. *Eulima arenata*, Sowb.

Loc. Chagos Archipelago.

190. *Eulima aciculata*, Sowb.

Loc. Chagos Archipelago: Salomon, on *Holothuriæ*.

191. *Eulima subangulata*, Sowb.

Loc. Chagos Archipelago: Salomon, with *E. aciculata* on *Holothuriæ*.

Family PYRAMIDELLIDÆ.

192. *Pyramidella terebellum* (Müll.).

Loc. Amirantes: Station E 11, 25–80 fathoms.

(d) RHACHIOGLOSSA.

Family MURICIDÆ.

Subfamily i. MURICINÆ.

193. *Murex tribulus*, L.

Loc. Saya de Malha Banks: Station C 4, 123 fathoms.

In but poor condition.

Var. *crassispina*, Lam.

Loc. Seychelles: Station F 3, 39 fathoms, hard sand.

194. *Murex (Chicoreus) adustus*, Lam.

Loc. Seychelles: Station F 5, 44 fathoms, shells and coral-rubble.

Chagos Archipelago: Diego Garcia, Barachois Maurice.

Exceedingly widely distributed.

195. *Murex (Chicoreus) axicornis*, Lam.

Loc. Saya de Malha Banks: Station C 12, 47 fathoms, shell-rubble and mud bottom.

196. *Murex (Chicoreus) micropyllus*, Lam.

Loc. Amirantes: Station E 6, 28 fathoms, among Polyzoa and *Pecten*-valve rubble.

197. *Murex (Chicoreus) sauliae*, Sowb.

Loc. Chagos Archipelago,

198. *Murex (Chicoreus) triquetter*, Born.

Loc. Coetivy I.

199. *Murex (Phyllonotus) inflatus*, Lam.

Loc. Cargados Carajos : Station B 3, sandy bottom.

Chagos Archipelago.

Subfamily ii. Purpurinæ.

200. *Purpura rudolphi* (Chemn.).

Loc. Seychelles : Praslin I.

Thais, Bolten, is now being adopted by some authors for *Purpura*.

201. *Purpura (Thalessa) armigera* (Chemn.).

Loc. Chagos Archipelago.

202. *Purpura (Thalessa) echinulata*, Lam.

Loc. Seychelles : Praslin I.

203. *Purpura (Thalessa) hippocastanum*, Lam.

Loc. Chagos Archipelago.

204. *Purpura (Thalessa) pica*, Blainv.

Loc. Chagos Archipelago.

205. *Iopas sertum* (Brug.).

Loc. Seychelles : Praslin I.

Coetivy I.

Chagos Archipelago.

206. *Pinaxia coronata*, A. Ad.

Loc. Coetivy I.

207. *Sistrum arachnoides* (Lam.) (*Ricinula*, Launarek), var. *albolabris*,

Bvllle. (sp.).

Loc. Coetivy I.

Seychelles : Praslin I.

Chagos Archipelago.

This is *Murex ricinus*, L., which name should have priority.

208. *Sistrum asperum* (Lam.).

Loc. Seychelles : Praslin I.

Chagos Archipelago.

209. *Sistrum clatum* (Blainv.).

Loc. Coetivy I.

Seychelles : Praslin I.

Including *S. fragum* (Blainv.), a variety occurring in the Chagos group.

210. *Sistrum elongatum* (Blainv.).

Loc. Coetivy I.

Seyehelles : Praslin I.

211. *Sistrum fiscellum* (Chenn.).

Loc. Chagos Archipelago : Diego Garcia, Barachois Maurice, and Salomon.

Perhaps a variety of *S. undatum*, Chem.

212. *Sistrum horridum* (Lam.).

Loc. Coetivy I.

Seyehelles : Praslin I.

Chagos Archipelago.

213. *Sistrum hystrix* (L.).

Loc. Coetivy I., where also the variety *clathrata* occurs.

214. *Sistrum iostoma* (Reeve).

Loc. Chagos Arehipelago : Diego Garcia.

215. *Sistrum morus* (Lam.), var. *aspera* (Lam., sp.).

Loc. Coetivy I.

Seychelles : Praslin I.

Both the typical form and the variety occur together.

216. *Sistrum ochrostoma* (Blainv.), var. *cavernosa* (Reeve).

Loc. Coetivy I.

Seychelles : Praslin I.

217. *Sistrum spectrum* (Reeve).

Loc. Seyehelles : Praslin I.

Chagos Archipelago.

218. *Sistrum spinosum* (A. Ad.).

Loc. Chagos Arehipelago.

219. *Sistrum tuberculatum* (Blainv.).

Loc. Coetivy I.

Seychelles : Praslin I.

220. *Sistrum undatum* (Chemn.).

Loc. Seychelles: Station F 2, 31 fathoms, coral, shell, and *Lithothamnia* rubble.

Chagos Archipelago.

Most of the above-mentioned *Sistra* are of wide distribution in the Indo-Pacific region.

Family Coralliophilidæ.

221. *Coralliophila abnormis* (Sm.).

Fusus abnormis, E. A. Smith, Proc. Zool. Soc. Lond. 1878, p. 811, fig.

Rhizochilus abnormis (Sm.), Melvill & Sykes, Proc. Mal. Soc. Lond. vol. ii. (1897) p. 170.

Loc. Seychelles: Station F 3, 39 fathoms, hard sand bottom.

222. *Coralliophila neritoidea* (Lam.).

Loc. Coetivy I.

Seychelles: Praslin I.

Chagos Archipelago.

C. violacea, Kiener, is synonymous.

223. *Coralliophila monodonta* (Quoy).

Loc. Coetivy I.

Saya de Malha Banks: Station C 16, 26 fathoms.

Chagos Archipelago: Salomon and Diego Garcia.

With this we group *C. madrepolarum*, Sowb., the forms appearing to intergrade.

224. *Leptoconchus striatus*, Rüpp.

Loc. Seychelles: Praslin I.

Family Columbellidæ.

225. *Columbella pacifica*, Sowb.

Loc. Coetivy I.

226. *Columbella turturina*, Lam.

Loc. Coetivy I.

Chagos Archipelago.

227. *Columbella varians*, Sowb.

Loc. Amirantes: S. Joseph I.

In poor, broken condition, but most probably referable here.

228. *Columbella versicolor*, Sowb.

Loc. Coetivy I.

229. *Columbella (Mitrella) azora*, Duclos.

Columbella azora, Duclos, Chenu, Illustr. Conch. pl. 1. figs. 1, 2.

Columbella albinodulosa, Gaskoin, Ann. & Mag. Nat. Hist. ser. 2, vol. xi. (1853) p. 358, pl. 12. figs. 7, 8.

Loc. Chagos Archipelago: Salomon, 25-75 fathoms.

Included under the Duclosian name by M. Ph. Dautzenberg (Bull. Soc. Zool. Fr. xviii. p. 81) in his list of the Mollusca of Seychelles Isles.

230. *Columbella (Mitrella) marquesa*, Gask.

Loc. Coetivy I.

231. *Columbella (Atilia) conspersa*, Gask.

Loc. Cargados Carajos: Station B 8, 35 fathoms.

C. puella, Sowb., is, I think, rightly conjectured by Tryon (Man. Conch. v. p. 145) to be identical, though the typical forms are larger and more elaborately sculptured.

A specimen with the apex badly broken, from Coetivy, was at first set aside as being perhaps undescribed, but careful examination with large series of *conspersa* from the Persian Gulf, &c., prompt one to the conclusion that it may be identical. It is a handsome form, shining, smooth, yellow-brown, attenuate towards the apex, the last whorl well shouldered at the periphery, the whole surface closely painted with straight close longitudinal darker lines.

Long. 10, lat. 4 mm.

232. *Columbella (Conidea) flava*, Brug. [= *flavida*, Lam.]

Loc. Amirantes: Stations E 9, 34 fathoms, E 12, 32 fathoms, E 13, 20-25 fathoms, and E 21, 30 fathoms.

Saya de Malha Banks: Station C 12, 47 fathoms.

One of the most widely distributed of Eastern shells.

Family **Nassidæ**.233. *Nassa arcularia* (L.).

Loc. Seyehelles: Praslin I.

Including a large pure white variety.

234. *Nassa coronata*, Brug.

Loc. Cargados Carajos: Station B 8, 30 fathoms.

235. *Nassa (Niotha) gemmulata*, Lam.

Loc. Cargados Carajos: Stations B 9, B 15, B 16, B 17, B 23, all 30 fathoms.

Saya de Malha Banks: Station C 13, 49 fathoms.

Amirantes: Station E 12, 32 fathoms.

Most of the specimens collected are of a brilliant whiteness.

236. *Nassa (Zeuxis) matdivensis*, Sm.

Nassa matdivensis, E. A. Smith, (Mollusca) in J. S. Gardiner, Fauna and Geography of Maldives and Laecadive Archipelagoes, vol. ii. part 2, p. 606, pl. 35. figs. 6-8.

Loc. Chagos Archipelago: Diego Garcia Lagoon.

The only species of the four described by Mr. Edgar Smith that has yet occurred in more southerly seas.

237. *Nassa (Tetasco) elegans*, Kiern.

Loc. Cargados Carajos, 30 fathoms.

238. *Nassa (Hebra) hispida*, A. Ad.

Loc. Seychelles: Praslin I., also Station F 3, 39 fathoms, hard sand bottom.

N. acinosa, Gould, appears synonymous.

239. *Nassa (Hebra) muricata*, Q. & G.

Loc. Coetivy I.

Family Buccinidæ.

240. *Pisania tritonoides* (Reeve).

Loc. Providence I.: Station D 4, 50-78 fathoms, among hard rough lumps of coral.

Considered by Tryon a variety of *P. ignea*, Gmelin, while Paetel merges it altogether as a synonym of that species.

241. *Tritonidea reticosa*, A. Ad.

Loc. Amirantes: Station E 11, 25-80 fathoms, hard rough bottom.

Also found in Japan.

242. *Tritonidea rubiginosa* (Reeve).

Loc. Seychelles: Praslin I.

243. *Tritonidea undosa* (L.).

Loc. Saya de Malha Banks: Station C 16, 26 fathoms, among living corals and rubble.

Seychelles: Praslin I.

Coetivy I.

Chagos Archipelago: Barachois Mauriee, Diego Garcia.

Very widely distributed throughout the East.

244. *Metula billeheusti* (Petit).

Loc. Seychelles: Station F 2, 31 fathoms, coral and shell bottom.

Extends to New Caledonia. This species seems placed indiscriminately in the genera *Metula* and *Tritonidea*. Paetel, for instance, twice names it, once in each genus, quoting it, indeed, as a synonym of *Pisania reticulata*, A. Ad.

245. *Engina mendicaria* (L.).

Loc. Chagos Archipelago : Peros Banhos, Coin.

Mostly of the deep black variety, with only one white spiral band on the body-whorl.
A most abundant species.

246. *Phos roseatus*, Hinds.

Loc. Cargados Carajos : Stations B 9, 30 fathoms, B 14, 30 fathoms, shell-rubble.

Saya de Malha Banks : Station C 4, 150 fathoms.

Amirantes : Stations E 5, 32 fathoms, sandy bottom ; E 6, 28 fathoms, E 9,
34 fathoms, shell-rubble (a variety) ; E 12, 32 fathoms, coral.

This is especially abundant in the Persian Gulf and Sea of Oman further north.

247. *Phos textum* (Gmel.).

Loc. Amirantes : Stations E 6 and E 9.

Very probably only a form of *P. roseatus*, Hinds.

Family **Turbinellidæ.**248. *Cynodonta armata* (Brod.).

Loc. Chagos Archipelago.

Not adult, and referred here with a little uncertainty.

249. *Cynodonta ceramica* (L.).

Loc. Seychelles : Praslin I.

250. *Cynodonta crosseana* (Souv.).

Turbinella crosseana, Souverbie, Journ. de Conch. (1876) pp. 382-383, pl. 13, fig. 1.

Vasum muricatum, Born, v. *crosseanum*, Souv. Tryon, Man. Conch. iv.

Hab. Seychelles (no exact sounding being given).

A fine example of this rare shell, with some specimens hardly adult, showing an interesting stage of growth. The conspicuous, button-like, crenulate apical whorls distinguish this well from any form of *muricatum*, of which at first it was considered a variety.

251. *Cynodonta cornigera* (Lam.).

Loc. Coetivy I.

Chagos Archipelago.

Family **Fasciolariidæ.**252. *Fasciolaria filamentosa*, Lam.

Loc. Seychelles : Praslin I.

Chagos Archipelago.

253. *Fasciolaria trapezium*, Lam.

Loc. Cargados Carajos.

Amirantes.

Seychelles : Praslin I.

254. *Fusus tuberculatus*, Lam.

Loc. Cargados Carajos : Stations B 8, 30 fathoms, B 9, 30 fathoms.

Chagos Archipelago : Diego Garcia, Barachois Maurice.

Extends northward to the Red Sea.

255. *Latirus barclayi* (Reeve).

Loc. Coetivy I.

A Mauritian species.

256. *Latirus craticulatus* (Lam.).

Loc. Coetivy I.

257. *Latirus polygonus* (L.).

Loc. Coetivy I.

Chagos Archipelago : Diego Garcia.

258. *Latirus turritus* (Gmel.).

Loc. Cargados Carajos : Stations B 2, 31 fathoms, B 9, 30 fathoms.

259. *Latirus (Peristernia) corallina* (Melv. & St.).

Peristernia corallina, Melvill & Standen, Ann. & Mag. Nat. Hist. ser. 7, vol. xii. (1903) p. 308,
pl. 22, fig. 11.

Loc. Amirantes : Station E 9, 34 fathoms, among Polyzoa and shell-rubble.

This was described five years ago from Maskat (Muscat) at the entrance to the Persian Gulf ; and it was then suggested that, owing to its appearance and texture, it would probably be found to inhabit corals.

260. *Latirus (Peristernia) nassatula* (Lam.).

Loc. Coetivy I.

A small, brightly coloured variety.

261. *Latirus (Leucozonia) smaragdula* (L.). [= *rustica*, Lam.]

Loc. Chagos Archipelago, common.

Family Mitridæ.

262. *Mitra floccata*, Reeve.

Loc. Cargados Carajos, 30 fathoms.

One specimen, not adult. Cargados Carajos is, I believe, the headquarters for this rare *Mitra*.

263. *Mitra pontificalis*, Lam.

Loc. Chagos Archipelago.

264. *Mitra solida*, Reeve.

Loc. Amirantes: Station E 9, 34 fathoms.

In young and rather doubtful condition.

265. *Mitra (Scabridula) acupicta*, Reeve.

Loc. Cargados Carajos: Station B 3, 30 fathoms, sandy bottom.

266. *Mitra (Scabridula) crenifera*, Lam.

Loc. Cargados Carajos: Stations B 9, 30 fathoms, B 24, same depth.

Amirantes: Stations E 2, 29 fathoms, E 5, 32 fathoms, E 9, 34 fathoms,

E 12, 32 fathoms; sandy bottom at E 5, the others in rough rubble.

Seychelles: Stations F 2, 31 fathoms, F 7, 34 fathoms, sand, with weed.

267. *Mitra (Cancilla) annulata*, Reeve.

Loc. Amirantes: Station E 9, 34 fathoms, on Polyzoa and shell-rubble bottom.

In poor condition.

268. *Mitra (Cancilla) interlirata*, Reeve.

Loc. Cargados Carajos: Station B 16, 30 fathoms, white sand.

Saya de Malha Banks: Station C 12, 47 fathoms, shell-rubble and mud.

Amirantes: Station E 9, 34 fathoms.

Seychelles: Station F 2, 31 fathoms, coral- and shell-rubble.

269. *Mitra (Chrysame) cucumerina*, Lam.

Loc. Coetivy I.

Seychelles: Praslin I.

Var. *fraga*, Quoy (sp.).

With the type, at Praslin I.

270. *Mitra (Chrysame) ferruginea*, Lam.

Loc. Coetivy I.

271. *Mitra (Chrysame) fulva*, Sw.

Loc. Chagos Archipelago.

Very near *M. ambigua*, Sw., with which some authors unite it.

272. *Mitra (Strigatella) acuminata*, Sw.

Loc. Coetivy I.

273. *Mitra (Strigatella) ansulata*, Reeve.

Loc. Coetivy I.

274. *Mitra (Strigatella) columbelliformis*, Kien.

Loc. Coetivy I.

An intermediate, between *acuminata*, Sw., and *columbelliformis*, occurred. Both may be extremes of one variable form.

275. *Mitra (Strigatella) fuscescens*, Pease.

Loc. Chagos Archipelago.

M. auriculoides, Reeve, seems synonymous. The headquarters of this species are the Hawaiian Islands.

276. *Mitra (Strigatella) litterata*, Lam.

Loc. Coetivy I.

Seychelles: Praslin I.

Chagos Archipelago.

277. *Mitra (Strigatella) paupercula*, Lam.

Loc. Coetivy I.

Chagos Archipelago: Peros Banhos, Coin.

278. *Mitra (Costellaria) angulosa*, Küst.

Loc. Cargados Carajos, 30 fathoms.

279. *Mitra (Costellaria) arenosa*, Lam.

Loc. Amirantes: Stations E 2, 29 fathoms, rubble and weed; E 12, 32 fathoms, coral-rubble bottom.

Although the extremes differ, mainly in the few longitudinal ribs of *M. exasperata*, Rve., as compared with those of *M. arenosa*, Lam., yet most authors now agree in joining the two species.

280. *Mitra (Costellaria) delicata*, A. Ad.

Loc. Amirantes: Station E 5, 32 fathoms, sandy bottom with much *Cymodocea*.

Allied to *bella*, Pease, from the Hawaiian Islands, and *dorotheae*, Melv., from the Marquesas I.

281. *Mitra (Costellaria) cineracea*, Reeve.

Loc. Cargados Carajos: Station B 2, 30 fathoms.

282. *Mitra (Costellaria) modesta*, Reeve.

Loc. Amirantes: Stations E 6, 28 fathoms, E 9, 34 fathoms, E 12, 30 fathoms, mostly coral-rubble.

283. *Mitra (Pusia) aureolata*, Sw.

Loc. Amirantes: S. Joseph I., not adult.

284. *Mitra (Pusia) crocata*, Lam.

Loc. Saya de Malha Banks: Station C 15, 55 fathoms, on bank of loose *Lithothamnia*-rubble.

285. *Mitra (Swainsonia) filum*, Wood.

Loc. Chagos Archipelago.

One specimen.

N.B.—Von Martens * enumerates 127 species of *Mitra* and *Turridula* combined from this region, including Mauritius and Bourbon.

Family **Harpidae**.

286. *Harpa minor*, Lam.

Loc. Chagos Archipelago.

Var. *crassa*, Phil. (sp.).

Ocuring sparsely with the typical form.

287. *Harpa striata*, Lam.

Loc. Chagos Archipelago.

Of the form *cabritii*, Fischer.

288. *Harpa ventricosa*, Lam.

Loc. Seychelles: Praslin I.

Chagos Archipelago.

From the latter locality a whitish variety was procured

Family **Volutidae**.

289. *Lyria delessertiana* (Petit).

Loc. Cargados Carajos: Station B 2, 30 fathoms.

One finely coloured but much damaged example.

Family **Marginellidae**.

290. *Marginella (Closia) sarda*, Kien.

Loc. Cargados Carajos: Station B 15, 30 fathoms, sandy and shelly bottom.

One fine, perfect, and large variety, measuring 19 x 11 mm.

291. *Marginella (Glabella) serrata*, Gask.

Loc. Amirantes: S. Joseph I.

A very worn example.

* Von Martens, Mollusken der Mauritius und der Seychellen, p. 249 seqq.

Family Olividæ.

292. *Otiva episcopalis*, Lam.

Loc. Chagos Archipelago.

The *O. cœrulea* of Botten, whose names I am still chary of adopting, in spite of the growing tendency towards their recognition.

293. *Oliva erythrostoma*, Lam.

Var. *ponderosa*, Duclos.

Loc. Chagos Archipelago.

294. *Oliva guttata*, Lam.

Loc. Providence I. : Station D 1, 31 fathoms, dead coral covered with Algæ, &c.

Amirantes : Station E 25, 20-40 fathoms, rough coral bottom.

Seychelles : Station F 7, 34 fathoms, sand, with weed.

O. emiculator, Meuschen, is the older name for this species.

295. *Oliva irisans*, Lam.

Loc. Providence I. : Station D 1, 31 fathoms, with the preceding species.

Amirantes : Station E 9, 34 fathoms, Polyzoa and shell-rubble.

296. *Oliva paxillus*, Reeve.

Loc. Amirantes : Station E 5, 32 fathoms, sandy bottom with much *Cymodocea*.

Chagos Archipelago (one specimen).

297. *Oliva pica*, Lam.

Loc. Chagos Archipelago.

One of the most *recherché* of Olives, and in which the coloration and pattern, though variable, is always unmistakable. It is considered by some authors a colour-variety merely of *O. tremulina*, Lam., which, in its turn, with the very distinct *O. erythrostoma*, Lam., is likewise placed under the common head of *irisans*, Lam. My personal opinion is that they are both good species. *Pica* is more frequently known under the name of *olympiadina*, Duclos.

298. *Oliva todosina*, Duclos.

Loc. Chagos Archipelago.

Placed by Tryon (Man. Conch. v. p. 87) as a synonym of *O. sidelia*, Duclos, *todosina* being the mature adult form. If this amalgamation be allowed, the distribution is wide, extending from China to Madagascar.

299. *Ancilla rubiginosa*, Swains.

Loc. Saya de Malha Banks : Station C 4, 150 fathoms.

One dead shell, broken, and encrusted with various growths. It is, however, full-grown and quite distinguishable.

(e) TOXOGLOSSA.

Family **Terebridæ**.

300. *Terebra affinis*, Gray.
Loc. Cargados Carajos ; Station B 13, 30 fathoms, coarse sand, &c.
 Providence I. : Station D 1, 31 fathoms, dead encrusted coral.
 Amirantes : Station E 21, 30 fathoms, on *Halimeda*-rubble.
301. *Terebra babylonia*, Lam.
Loc. Seychelles : Station F 2, 31 fathoms, rubble-bottom.
302. *Terebra bruguierii*, Desh.
Loc. Amirantes . Station E 9, 34 fathoms, with *T. conspersa*, Hinds.
 One specimen only. It extends to China.
303. *Terebra cærulescens*, Lam.
Loc. Seychelles : Praslin I.
304. *Terebra chlorata*, Lam. [= *knorri*, Gray.]
Loc. Chagos Archipelago.
305. *Terebra conspersa*, Hinds.
Loc. Amirantes : Station E 9, 34 fathoms, on Polyzoa and shell-rubble.
 Specimens from the Philippine Islands are in the British Museum (Nat. Hist.).
306. *Terebra crenulata* (L.).
Loc. Chagos Archipelago.
307. *Terebra dimidiata* (L.).
Loc. Coetivy I.
 Amirantes : Station E 9, 34 fathoms.
308. *Terebra duplicata* (L.).
Loc. Cargados Carajos, 30 fathoms.
309. *Terebra maculata* (L.).
Loc. Chagos Archipelago.
310. *Terebra monilis*, Quoy & Gaim.
Loc. Amirantes : Stations E 6, 28 fathoms, E 9, 34 fathoms, Polyzoa and *Pecten*-rubble.
311. *Terebra nitida*, Hinds.
Loc. Amirantes : Station E 9, 34 fathoms, with the preceding.

312. *Terebra penicillata*, Hinds.

Loc. Chagos Archipelago.

313. *Terebra pertusa*, Born.

Loc. Providence I.: Station D 1, 39 fathoms, dead encrusted coral bottom.

314. *Terebra subulata* (L.).

Loc. Amirantes: Station E 9, 34 fathoms, with others of the same genus, e. g. *T. bruguierii*, Desh.

315. *Terebra textilis*, Hinds.

Loc. Saya de Malha Banks: Station C 4, 150 fathoms, shelly bottom (*Ostrea*).

Family Conidæ.

316. *Conus fuscatus*, Lam.

Loc. Chagos Archipelago.

317. *Conus (Stephanoconus) distans*, Hwass.

Loc. Chagos Archipelago.

318. *Conus (Stephanoconus) lividus*, Hwass.

Loc. Coetivy I.

Chagos Archipelago.

With the typical shell occurred, at the latter locality, one or two examples of an elongate form, which is most probably the var. *sugillatus*, Reeve.

319. *Conus (Coronaxis) ceylonensis*, Hwass.

Loc. Coetivy I.

C. pusillus, Chemn., is a synonym.

320. *Conus (Coronaxis) fulgetrum*, Sowb.

Loc. Coetivy I.

Perhaps only a variety of *C. miliaris*, Hwass.

321. *Conus (Coronaxis) hebræus*, L. (*ebræus*).

Loc. Chagos Archipelago.

The variety *vermiculatus*, Lam. (sp.), occurs plentifully with the type.

322. *Conus (Coronaxis) miliaris*, Hwass.

Loc. Chagos Archipelago.

C. minimus, L., considered by many authors a variety, occurs with this, but rarely. It is, however, abundant further northward, in the Persian Gulf and Gulf of Oman.

323. *Conus (Puncticulis) arenatus*, Hwass.

Loc. Amirantes: Station E 9, 34 fathoms, hard sand.

Chagos Archipelago.

324. *Conus (Puncticulis) pulicarius*, Brug.

Loc. Chagos Archipelago.

325. *Conus (Nubecula) gubernator*, Brug.

Loc. Cargados Carajos: Station B 3, 30 fathoms, sandy.

Amirantes: Station E 9, 34 fathoms, hard sand.

326. *Conus (Nubecula) tulipa*, L.

Loc. Providence I.; Station D 1, 39 fathoms, dead encrusted coral bottom.

Chagos Archipelago.

327. *Conus (Dendroconus) quercinus*, L.

Loc. Seychelles: Station F 3, 39 fathoms, hard sand.

328. *Conus (Dendroconus) tessellatus*, Born.

Loc. Providence I.: Station D 3, 29 fathoms, coral-rock.

Amirantes: Station E 9, 34 fathoms, hard sand.

329. *Conus (Leptoconus) archithalassus*, Dillw.

Conus ammiralis, L., var. *granulata*, Kiener, Spec. gén. Icon. Coq.-viv., *Conus*, pl. 21, fig. 1 d.

Conus archithalassus, Dillwyn, Deser. Cat. i. 374; Sowerby, Thes. Conch. iii. no. 30, p. 5, figs. 24, 25.

Loc. Amirantes: Station E 21, 30 fathoms, among quantities of *Halimeda* and *Lithothamnia*.

Known to the older school of conchologists as the "Crowned Admiral." Though it can always be differentiated from *ammiralis*, L., it is a moot question whether it is really distinct specifically, though so treated by both Dillwyn, Sowerby, and others. The latter gives habitat "Mauritius," but von Martens* queries this. At all events, the dredging of this beautiful Cone at the Amirantes establishes the fact of its presence near the Mauritius, while Paetel (Catalog der Conchyl.-Samml. p. 291) mentions the Seychelles as a locality also.

330. *Conus (Lithoconus) ermineus*, Dillw. [= *lithoglyphus*, Meusch.)

Loc. Cargados Carajos: Station B 2, 30 fathoms, *Lithothamnia*-rubble.

The unicolorous golden-brown variety, with no white flecking or spots.

331. *Conus (Lithoconus) eximus*, Reeve.

Loc. Amirantes: Station E 9, 34 fathoms.

A smooth, very beautiful variety.

I am much indebted to Mr. G. B. Sowerby for his opinion as to this shell.

332. *Conus (Lithoconus) flavidus*, Lam.

Loc. Chagos Archipelago.

333. *Conus (Rhizoconus) miles*, L.

Loc. Chagos Archipelago.

* Mollusken der Mauritius und der Seychellen, p. 221.

334. *Conus (Rhizoconus) putcheltus*, Swainson.

Loc. Amirantes: Station E 2, 29 fathoms, weed and rubble.

Var. *cinctus*, Swains. (sp.).

Loc. With the preceding.

335. *Conus (Rhizoconus) sulphuratus*, Brug.

Loc. Amirantes: Station E 9, 31 fathoms, Polyzoa and shell-rubble.

A young shell only, perhaps a non-adult form of *vexillum*, Gmel.

336. *Conus (Rhizoconus) rattus*, Hwass.

Loc. Chagos Archipelago.

Var. *tahitensis*, Hwass. (sp.).

Loc. With the type, and also at Coetivy I.

337. *Conus (Rhizoconus) vexillum*, Gmel.

Loc. Seychelles: Praslin I.

Chagos Archipelago.

A brightly coloured form, in shading inclining to *C. capitaneus*, L.

338. *Conus (Chelyconus) catus*, Brug.

Loc. Coetivy I.

339. *Conus (Cylinder) archiepiscopus*, Hwass.

Loc. Chagos Archipelago.

A rare species.

I do not consider this a mere variety of *textile*, L., but a fairly well-marked species, allied to *victoriae*, Reeve, and *abbas*, Brug. I would refer to my "Revision of the Textile Cones" (Journ. of Conch. vol. ix. 1900, p. 307).

340. *Conus (Cylinder) aulicus*, L.

Loc. Chagos Archipelago: Peros Banhos, Coin.

341. *Conus (Cylinder) episcopus*, Hwass.

Loc. Chagos Archipelago.

342. *Conus (Cylinder) textile*, L.

Var. *canonicus*, Hwass (sp.).

Loc. Chagos Archipelago.

The form *rubescens*, Bonnet, is merely a bluish-tinged variety of this variety.

Var. *vicarius*, Lam. (sp.).

Loc. Cargados Carajos, 30 fathoms.

343. *Conus (Hermes) nussatella*, L.

Loc. Coetivy I.

A particularly widely-distributed species throughout the whole Indo-Pacific region.



344. *Pleurotoma bülowi*, Sowb.

Loc. Cargados Carajos: Stations B 8, B 9, B 13, B 16, all 30 fathoms; B 23, 28 fathoms.

A white, unspotted shell, very probably an albino variety of either *variegata*, Kien., *marmorata*, Lam., or *jickeli*, Weink.

345. *Pleurotoma garnonsii*, Reeve.

Loc. Cargados Carajos: Station B 8, 30 fathoms, weed and broken shells.

Seychelles: Station F 2, 31 fathoms, coral and *Lithothamnia*-rubble.

346. *Pleurotoma jickeli*, Weink.

Loc. Cargados Carajos: Station B 17, 30 fathoms, shell-rubble.

347. *Pleurotoma variegata*, Kien.

Loc. Cargados Carajos: Station B 13, 30 fathoms, coarse coral-rubble and sand.

Seychelles: Station F 2, 31 fathoms, coral and *Lithothamnia*-rubble.

P. variegata, Kien., appears intermediate between *P. jickeli*, Weink., *marmorata*, Lam., and *tigrina*, Lam. The extremes are fairly distinct, but intermediates doubtless occur, and dwarfed, or non-adult, examples, as exist from the above-mentioned localities, are very hard, if not impossible, to identify with absolute certainty. Indeed, very probably, some experts would name one or two examples as *tigrina*.

348. *Drillia flavidula* (Lam.).

Loc. Cargados Carajos: Station B 14, 30 fathoms, shell-rubble, with large Foraminifera.

349. *Drillia variabilis*, Sm.

Loc. Seychelles: Station F 2, 31 fathoms, coral and shell-rubble.

One example alone dredged, in non-adult condition. It possesses the contour of *D. variabilis*, with some inclination in smoothness and marking to *D. theoreta*, Melv., from the Persian Gulf.

350. *Drillia (Clavus) exasperata* (Reeve).

Loc. Seychelles: Station F 2, 31 fathoms, coral and sand, with *Lithothamnia*-rubble.

351. *Surcula bijubata* (Reeve).

Loc. Cargados Carajos, 30 fathoms.

Reported from the Mauritius, with extension of range eastward to the Philippines, Viti Isles, and the Solomon I. Group.

352. *Clathurella robilliardi* (Barclay, MSS.), H. Ad.

Loc. Amirantes: Station E 9, among Polyzoa and on shell-rubble.

353. *Mangilia (Glyphostoma) roseotincta*, Montr.

Loc. Amirantes: Station E 11, 25-80 fathoms, on hard, rough ground.

A remarkably select little species, of a bright rosy-red hue, of which only one specimen was dredged.

Family Cancellariidæ.

354. *Cancellaria (Merica) asperella*, Lam.

Loc. Seychelles: Station F 3, 39 fathoms, hard sand.

355. *Cancellaria (Euelia) lactea*, Desh.

Loc. Saya de Malha Banks: Station C 1, 150 fathoms, on white-rubble ground of dead coral, &c.

Order AMPHINEURA.

Suborder POLYPLACOPHORA.

Family Chitonidæ.

356. *Schizochiton incisus* (Sowb.).

Loc. Coetivy I.

Saya de Malha Banks: Station C 16, 26 fathoms, on living corals and rubble.

Amirantes: Station E 2, 29 fathoms, on living corals and rubble.

Chagos Archipelago: Egmont Atoll reef.

The specimens obtained from the above stations are moderate in size and seem akin to the var. *elongatus*, Reeve (sp.). Mr. E. A. Smith records this species as obtained for the first time in the Indian Ocean at Addu Atoll, Maldives, on Mr. J. Stanley Gardiner's first expedition.

S. incisus will always be considered one of the most interesting of the Chitonidæ, since the late Prof. Henry Nottidge Moseley, F.R.S.* first noticed the presence of dorsal eyes on its surface in 1883.

357. *Acanthochites (Loboplax) laqueatus* (Sowb.).

Acanthochites (Loboplax) laqueatus, Sowb.; E. A. Smith, Faun. Mald. & Lacead. Arch. vol. ii. part 2, p. 620.

Craspedochiton laqueatus, Shuttleworth, Bern. Mitt. 1853, p. 27.

Chiton laqueatus, Sowb. Proc. Zool. Soc. Lond. 1841, p. 131.

Loc. Amirantes: Station E 13, 20 to 25 fathoms, calcareous rubble.

Also from Mindoro I., Philippines, and Maldivian Islands (*J. Stanley Gardiner*).

Mr. Edgar Smith's remarks on this species (*l. c.* p. 620) are of much interest.

358. *Acanthopleura borbonica* (Desh.).

Chiton borbonicus, Deshayes, Moll. Réunion, p. 37, Taf. 5. figs. 12, 13.

Loc. Seychelles: Praslin I.

Fine, well-developed specimens, and presumably locally common.

N.B.—Three very small specimens of this Order, about 5 mm. in length, and most probably all undevolved, non-adult species—(a) from Chagos Archipelago, Peros Banhos, (b) Coetivy, 32 fathoms, (c) Amirantes, Station E 2, 29 fathoms,—have, at the recommendation of two specialists in Chitonidæ, been left undifferentiated.

* Ann. & Mag. Nat. Hist. ser. 5, xiv. (1884) pp. 141–147.

Order SCAPHOPODA.

359. *Dentalium gardineri*, sp. nov. (Plate 5. fig. 9.)

D. testa magna, solidula, paullum apicem versus arcuata, aliter fere recta, straminea, undique longitudinaliter arete lirata, liris apicem analem versus ad 14, lævibus, conspicuis, supra ad 50, lineis spiralibus incrementaliter multis prædita; apertura rotunda, tenui, anali perparva.

Long. 100, diam. 6, apic. anal. 1·5 mm.

Loc. Amirantes: Station 20, 160–209 fathoms, rough and hard shell-rubble.

A large, straw-coloured *Dentalium*, four inches in length, almost straight till just below the apex, where slight arcuation is perceptible; the longitudinal liræ about fourteen in number, increasing to fifty at the aperture. Incremental spiral lines are noticeable, closely dispersed over the surface, with the aid of a lens, the shell being otherwise smooth. In the only specimen obtained there is a strong sea-break. It is a much narrower species than the Japanese *D. vernediei*, Hanley. It is a pleasure to connect with this fine species the name of Mr. J. Stanley Gardiner, F.R.S.

360. *Dentalium gemmiparum*, sp. nov. (Plate 5. fig. 10.)

D. testa alba, paullum postice arcuata, aliter fere recta, delicata, undique longitudinaliter arete lirata, liris ad aperturam circa 35, ad apicem analem 16, angusta, spiraliter et regulariter ad liras noduloso-gemmata, gemmis albis, nitidis, lævibus, parvis; apertura rotunda, apice anali perparvo, rotundo.

Alt. 38, diam. ad aperturam 4, ad ap. analem 1 mm.

Loc. Chagos Archipelago: Diego Garcia Lagoon.

A remarkable member of the Scaphopoda, for we know no other *Dentalium* possessing a sculpture nodulous with small white gemmæ placed at regular concentric intervals upon the liræ or riblets. The aperture is round and somewhat expanded, the anal orifice being remarkably small; the shell in form is only very slightly arcuate.

361. *Dentalium pseudosexagonum*, Desh.

Loc. Saya de Malha Banks.

Cargados Carajos: Station B 17, 30 fathoms, shell-rubble.

Amirantes: Station E 9, 34 fathoms (poor).

I possess specimens from the Philippine Islands sufficiently near to pronounce them identical, allowing for a certain degree of variation—*e. g.*, these specimens are 8-angled, not 6, at the anal orifice.

Order OPISTHOBRANCHIATA.

Suborder i. TECTIBRANCHIATA.

Family Scaphandridæ.

362. *Atys (Alicuta) cylindrica* (Helb.).*Loc.* Seychelles: Station F 8, 31 fathoms, sand, shell, and weed ground.

Family Bullidæ.

363. *Bulla australis*, Quoy & Gaim.*Loc.* Amirantes: Station E 21, 30 fathoms, on *Halimeda*- and *Lithothamnia*-rubble.

Chagos Archipelago.

From the first-named station only young shells.

Family Siphonariiidæ.

364. *Siphonaria atra*, Quoy.*Loc.* Amirantes: S. Joseph I.

Class PELECYPODA.

Order FILIBRANCHIATA.

Suborder i. ARCACEA.

Family Arcadæ.

365. *Arca imbricata*, Brug.Var. *mutabilis*, Sowb.*Loc.* Seychelles: Praslin I.

Chagos Archipelago: Salomon, Lagoon and Peros Banhos, Diamant, 16 fathoms.

366. *Arca navicularis*, Brug.*Loc.* Saya de Malha Banks: Station C 15, 55 fathoms, on bank of loose *Lithothamnia*-rubble.

Amirantes: Station E 2, 29 fathoms, similar ground.

367. *Arca (Barbatia) decussata*, Sowb.*Loc.* Cargados Carajos: Station B 9, 30 fathoms, among broken coral.Amirantes: Stations E 13, 20–25 fathoms, rubble; E 16, 39 fathoms, among *Lithothamnia*.

Chagos Archipelago: Salomon Lagoon and Peros Banhos, Diamant, 16 fathoms.

368. *Arca (Barbatia) nivea*, Chemn.

Loc. Cargados Carajos: Stations B 9, 30 fathoms, broken shell and coral lump-bottom; B 20, 28 fathoms, on coarse coral-rubble.

Providence I.: Station D 3, 29 fathoms, coral-rock.

Amirantes: Stations E 1, 29 fathoms, E 2, 29 fathoms, rubble; E 5 32 fathoms, sandy; E 16, 39 fathoms, on *Lithothamnia*-rubble.

Chagos Archipelago: Salomon Lagoon, 10-14 fathoms (var. *helblingi*); Diego Garcia, Barachois Maurice, also Diego Lagoon, 14 fathoms.

Evidently a very abundant and variable form, of which many examples in all stages of growth were secured. I cannot separate the large *Barbatia helblingi* (Brug.) from the typical *nivea*. It is merged as synonymous by Dr. Edouard Lamy, whose recently published work on the genus * will be found absolutely indispensable to students of this most difficult family.

369. *Arca (Acar) plicata*, Chemn.

Arca plicata, Chemn. Conch.-Cab. xi. p. 244, pl. 204, fig. 2008 (1795).

Arca domingensis, Lamarek, Anim. sans Vert. vi. p. 40 (1819).

Arca squamosa, Lamarek, Anim. sans Vert. vi. p. 45 (1819).

Loc. Cargados Carajos: Station B 11, 30-33 fathoms, white sand bottom; B 17, 30 fathoms, shell-rubble.

Amirantes: Station E 25, 20-44 fathoms, rough coral.

A most widely distributed mollusc, found both in the tropics of the Old and New Worlds alike, with a most extensive synonymy, of which only the three principal are given above.

370. *Arca (Acar) tenella*, Reeve.

Loc. Chagos Archipelago.

A well-marked form, extending on the N.E. to the Philippines, and to Madagascar on the S.W.

371. *Arca (Anadara) holoserica*, Reeve.

Loc. Chagos Archipelago: Diego Garcia, Lagoon, 10 fathoms, and Barachois.

This is the *Arca uropigimetana* of Bory St. Vincent (1824), subsequently toned down to *uropyggmelana*, which, strictly speaking, has priority of several years over Reeve's better-known cognomen. But it seems a barbaric meaningless name, and such are often rightly disallowed, and accordingly it is not adopted here.

372. *Arca (Anadara) septicostata*, Reeve.

Arca scapha, Lamarek (in parte), Anim. sans Vert. vi. p. 42 (1819).

Arca septicostata, Reeve, Conch. Icon. ii. *Arca*, pl. 6, fig. 38 (1844).

* "Révision des *Arca* vivants du Muséum d'Histoire Naturelle de Paris," par E. Lamy, Journ. de Conch. vol. iv. (1907) pp. 1-111, 199-307, tabb. 1, 3.

Loc. Cargados Carajos: Stations B 2, 30 fathoms, rubble; B 9, 30 fathoms, broken shell; B 16, 30 fathoms, white sand bottom.

A local species with restricted range, mainly found in the Indian Ocean.

373. *Pectunculus hoylei*, M. & St.

Pectunculus hoylei, Melvill & Standen, Journ. Linu. Soc. Lond., Zool. vol. xxvii. (1899) p. 187, pl. 11, fig. 24.

Loc. Providenee I.: Stations D 1, 39 fathoms, D 3, 29 fathoms, coral-rock.

Amirantes: Station E 9, 34 fathoms, Polyzoa and shell-rubble.

Exactly agreeing with the original specimens described from the Torres Straits (*A. C. Haddon*).

374. *Pectunculus* sp.

Loc. Cargados Carajos: Station B 14, 30 fathoms, amongst shell-rubble.

One specimen, probably not adult. I cannot exactly match it with any known species, though it approximates with several, notably *P. formosus*, Reeve, from the South Atlantic Ocean.

Suborder ii. MYTILACEA.

375. *Modiola auriculata*, Krauss.

Loc. Chagos Archipelago.

Described originally from South Africa, but it evidently has a wider range northward into the Tropics, being mentioned by Mr. E. A. Smith as occurring in the Maldives Archipelago (*l. c.* p. 623) and by Mr. Standen and myself (Proc. Zool. Soc. 1906, p. 800) from the Persian Gulf.

376. *Septifer bilocularis* (L.).

Loc. Amirantes: S. Joseph I.

Saya de Malha Banks: Station C 15, 55 fathoms.

Chagos Archipelago: Salomon, Lagoon, 14 fathoms; Diego Garcia, Lagoon, 10–14 fathoms.

Many specimens collected of another very widely distributed species. It is the *Mytilus nicobaricus*, Reeve.

377. *Lithodomus cinnamomeus* (Lam.). [*cinnamominus*.]

Loc. Manritius: Station A 2, 100 fathoms.

By some authors considered a *Modiota*.

378. *Lithodomus gracilis*, Phil.

Loc. Farquhar Atoll, north reef.

379. *Lithodomus plumula*, Hanley.

Loc. Chagos Archipelago: Diego Garcia, Lagoon.

Originally described from West Coast of America.

380. *Lithodomus teres*, Phil.

Loc. Chagos Archipelago: Diego Garcia, Lagoon, with the preceding; Peros Banhos, Diamant, 16 fathoms.

N.B.—A few undeveloped and obscure specimens likewise occurred, which it has been impossible exactly to identify. The species, especially of the *nasuta* type, are variable and confusing, and the distribution of many is almost world-wide in the warmer seas. Such occur in dredgings from Providence I., Station D 4, 56–78 fathoms, &c.

Order PSEUDOLAMELLIBRANCHIATA.

Family AVICULIDÆ.

381. *Meleagrina margaritifera* (L.).

Loc. Seychelles: Praslin I.

Chagos Archipelago: Peros Banhos, Diamant, 16 fathoms.

Dr. Lister Jameson has lately undertaken * a revision of the species of Pearl Oysters, and I believe that those found in the above localities will come under his *M. mauritiæ*.

382. *Pteria ala-corvi* (Chemn.). [*Avicula*, Klein.]

Loc. Chagos Archipelago: Diego Garcia, Baraehois Maurice.

N.B.—A pale ochreous shell from the latter locality may be *Pt. placunoides*, Reeve.

383. *Pteria crocea* (Lam.).

Loc. Chagos Archipelago.

A Mauritian species, known by its bright colour.

384. *Pteria malloides* (Reeve).

Loc. Chagos Archipelago: Salomon, Lagoon, 10–14 fathoms.

Extends in range to Australian waters.

385. *Pteria macroptera* (Lam.).

Loc. Farquhar Atoll.

386. *Pteria semisagitta* (Lam.).

Loc. Amirantes: Station E 10, 22–86 fathoms, rubble of dead coral, &c.

The specimens are much encrusted with nullipores, but are probably referable to this species, found in the Mauritian area.

* Proc. Zool. Soc. Lond. 1901, i. pp. 372–394, figs. in text.

387. *Malleus normalis*, Lam.

Loc. Chagos Archipelago.

M. anatinus, Lam., is so nearly allied to this as to suggest its perhaps being only a varietal form. The geographical distribution is much the same.

388. *Perna isognomon* (L.).

Loc. Chagos Archipelago.

Only in young condition.

389. *Perna linguaeformis*, Reeve.

Loc. Chagos Archipelago.

390. *Perna sulcata*, Lam.

Loc. Seychelles: Praslin I.

Very imperfect and a little doubtful.

391. *Perna vitrea*, Reeve.

Loc. Chagos Archipelago.

P. maittardi, Desh., is nearly akin, and probably also occurs, being a well-known Mauritian form.

392. *Perna vulsetta*, Lam.

Loc. Chagos Archipelago.

Only in very imperfect condition, and therefore doubtful. The same remark will apply to several others of this and related families.

393. *Pinna* sp.

Loc. Seychelles: Praslin I.

Only in imperfect or non-adult condition. A ribbed, non-spinous species.

394. *Pinna (Atrina) nigrina*, Lam.

Loc. Chagos Archipelago: Peros Banhos, Coin.

In broken fragments.

Family Ostreidæ.

395. *Ostrea cerata*, Sowb.

Loc. Chagos Archipelago.

396. *Ostrea hyotis*, L.

Loc. Chagos Archipelago.

Seychelles: Station F 2, 31 fathoms.

Only imperfect valves.

397. *Ostrea mytiloides*, Lam.

Loc. Coetivy Island.

Not apparently adult, but in many ways agreeing with the species named above.
A few specimens.

398. *Ostrea (Alectryonia) crista-galli*, L.

Loc. Cargados Carajos: Stations B 17, 30 fathoms, B 24, 30 fathoms.

399. *Ostrea (Alectryonia) frons*, L.

Loc. Cargados Carajos, 30 fathoms.

Saya de Malha Banks: Station C 15, 55 fathoms.

Seychelles: Station F 2, 31 fathoms.

Many of the Ostreidae are hardly in a condition to be differentiated with any certainty.

Family Pectinidæ.

400. *Pecten cuneolus*, Reeve.

Loc. Saya de Malha Banks: Station C 19, 29 fathoms, among corals, rubbles, and *Algæ*.

401. *Pecten irregularis*, Sowb.

Loc. Chagos Archipelago: Salomon Reef.

402. *Pecten lemniscatus*, Reeve.

Loc. Chagos Archipelago: Salomon Lagoon, 10–14 fathoms.

403. *Pecten lividus*, Lam. [= *serratus*, Reeve.]

Loc. Amirantes: Stations E 2, 29 fathoms, weedy ground; E 5, 25 fathoms, sandy.

A very variable species. None of these last three found in good condition, being much encrusted with nullipores, &c.

404. *Pecten maldivensis*, Sm.

Pecten maldivensis, Edgar A. Smith, Faun. & Geogr. Mald. & Laccad. Arch. ii. p. 622, pl. 36. figs. 19, 20.

Loc. Saya de Malha Banks: Station C 15, 55 fathoms.

Amirantes: Station E 21, 30 fathoms, *Halimeda*-rubble.

Described but three years ago from the Maldives (*J. Stanley Gardiner*), this pretty and peculiar species has been since recorded from the Persian Gulf (*F. W. Townsend*), and now a further extension of range is supplied.

405. *Pecten noduliferus*, Sowb.

Loc. Amirantes: Stations E 2, 29 fathoms, rubble; E 11, 25–80 fathoms, hard ground; E 13, 20–23 fathoms, E 16, 39 fathoms, *Lithothamnia*-rubble; E 21, 30 fathoms, *Halimeda* and weed.

Seychelles: Station F 7, 34 fathoms, sand, with weed.

Allied to *P. coraltinoides*, d'Orb., from the Cape de Verdes, and with which, a larger and very different species, it has been sometimes unwarrantably confounded.

406. *Pecten nux*, Reeve.

Loc. Cargados Carajos : Station B 20, 28 fathoms, coarse coral-rubble.

Saya de Malha Banks : Station C 15, 55 fathoms, similar bottom.

407. *Pecten pallium*, L.

Loc. Chagos Archipelago.

Small and poor examples only of this most select and brilliant species.

408. *Pecten perfectus*, sp. nov. (Plate 5. fig. 15.)

P. testa compressa, æquivali, pulchre miniata, hic illie albo et nigro conspersa, radiis albis, præcipue marginem apud ventralem, obscuris decorata, auriculis valde inæqualibus, postica parva, obliquissima, antica decem-costata, breviter squamata, superficie omni in valva utraque, longitudinaliter arctissime et delicate tenuicostata ; costis fere 55, minute squamulosis, fere regularibus ; intersticiis planatis, nitidis.

Alt. 25, lat. 23, diam. 6 mm.

Loc. Chagos Archipelago : Peros Banhos, Diamant, 16 fathoms.

This pretty *Pecten* seems most akin to the coarser *P. irregularis*, Sowb., which occurs in the same region and is widely distributed in the Indian Ocean. It differs in its far greater regularity of longitudinal costæ, these being about 55 in number, close and fine-set, the interstices being smooth and shining ; the ribs themselves are delicately scaly. The colour is scarlet-crimson, here and there flecked with white suffusion bordered by black spotting ; around the ventral margin are five or six white rays, becoming soon evanescent. I am much indebted to Mr. G. B. Sowerby for his opinion concerning this interesting species.

409. *Pecten plica* (L.).

Loc. Amirantes : Stations F 5, 32 fathoms, sandy ; E 9, 34 fathoms, Polyzoa and shell-rubble.

410. *Pecten porphyreus*, Chemn.

Loc. Cargados Carajos : Station B 14, 30 fathoms, on shell-rubble.

Amirantes : Stations E 5, 32 fathoms, sandy ; E 15, 20–25 fathoms, E 21, 30 fathoms, in both stations amidst *Halimeda* and other calcareous Algae.

Chagos Archipelago : Diego Garcia, Barachois Maurice.

P. porphyreus, Chemn., is probably an outlying, squamosely ribbed form of the fairly smooth and large *P. senatorius*, Gmel., so abundant an inhabitant of the Arabian Sea further north. It is, at best, an extremely variable species, and it is a question whether the very fine *P. gloriosus*, Reeve, and *crassicostatus*, Sowb., had not best be treated as synonymous. The distribution of the typical form is wide, extending to Japan : the varieties are more or less restricted in range.

411. *Pecten rastellum*, Lam.

Pecten rastellum, Lamarek, Anim. sans Vert. vi. 166; Delessert, Recueil des Coquill. Lam. pl. 16. fig. 3 a, b; Sowerby, Thes. Coneh., *Pecten*, p. 50. sp. 30.

Var. *mirificus*, Reeve (sp.).

Pecten mirificus, Reeve, Coneh. Ieon., *Pecten*, fig. 104.

Loc. Amirantes: Stations E 11, 25–80 fathoms, on hard rough ground; E 16, 39 fathoms, also E 21, 30 fathoms, both *Lithothamnia*-rubble bottom.

One of the most beautiful of Pectinidae when in fine condition. The principal form in the Amirantes seems to be typical *rastellum*. I have received this in the past from the Philippines. Hidalgo*, under the name *Chlamys rastellum*, Lam., confirms my views of the more solid and smaller *mirificus*, Reeve, being but a variety. It is a species that requires further study as regards both variation and limitation.

412. *Pecten pseudo-lima*, Sowb.

Loc. Chagos Archipelago; Salomon Reef.

413. *Pecten reticulatus*, Reeve.

Loc. Cargados Carajos: Station B 9, 30 fathoms.

Amirantes: Stations E 1 and E 2, 29 fathoms, rubble; E 6, 28 fathoms, among Polyzoa.

Seychelles: Station F 8, 34 fathoms, sandy bottom.

Chagos Archipelago: Diego Gareia, Lagoon, 14 fathoms.

Single specimens occurring in either case. Nearly allied to *P. testudineus* and *fucatus*, both of Reeve. A Red Sea species, extending to the Persian Gulf (Townsend).

414. *Pecten (Volva)* sp.

Loc. Saya de Malha Banks: Station C 1, 150 fathoms.

Two dead flattened valves, encrusted with *Serpula*, &c. The longitudinal ribs are bipartite in one valve, plain and undivided in the other; otherwise the sculpture is identical. I have compared them with the Australian *P. bicostatus*, and find some similarity.

415. *Amussium caducum*, Sm.

Amussium caducum, E. A. Smith, Rep. 'Challenger' Exp. xiii. p. 309, pl. 23. figs. 1–1 c.

Loc. Saya de Malha Banks: Station C 20, 331–500 fathoms, hard ground, with a few solitary corals, &c.

Two or three examples, in fine condition. The original specimens dredged during the 'Challenger' Expedition came from the west of Luzon I., Philippines, at 700 fathoms.

Family **Limidæ**.416. *Lima fragitis* (Gmel.).

Loc. Coetivy I., 52 fathoms.

Providence I.: Station D 4, 53–78 fathoms, rough coral bottom.

* Cat. Moll. Test. Islas Philippinas, &c. (1904–1905) p. 379.

417. *Lima inflata* (Chemn.). [= *fasciata* (L.), Gmel.]

Loc. Amirantes: Station E 13, 20–25 fathoms, rubble.

Chagos Archipelago: Peros Banhos, Diamant, 16 fathoms.

418. *Lima multicostata*, Sowb.

Loc. Providence I.: Station D 4, 50–78 fathoms, rough coral bottom. Some specimens with flattened and distorted ventral margin.

Amirantes: Station E 20, 160 fathoms, rough rubble.

Chagos Archipelago: Peros Banhos, Diamant, 16 fathoms.

419. *Lima sowerbyi*, Desh.

Loc. Amirantes?

The label has unfortunately got mislaid. Almost an exact Eastern exponent of the Mediterranean *L. squamosa*, Lam.

420. *Lima (Ctenoides) tenera*, Chemn.

Loc. Cargados Carajos Station: B 17, 30 fathoms, shell-rubble ground.

Family Spondylidæ.

421. *Spondylus aurantius*, Lam.

Loc. Chagos Archipelago.

422. *Spondylus coccineus*, Lam.

Loc. Chagos Archipelago.

423. *Spondylus croceus*, Chemn.

Loc. Amirantes: Station E 20, 160 fathoms, rubble bottom.

Chagos Archipelago.

424. *Spondylus zonalis*, Lam.

Loc. Chagos Archipelago.

All weathered and in poor condition, being hardly recognizable. Another specimen from Diego Garcia Lagoon, with lilac interior, seems distinct, though it is not possible exactly to differentiate it.

Order E U L A M E L L I B R A N C H I A T A.

Suborder i. SUBMYTILACEA.

Family Carditidæ.

425. *Mytilicardia variegata* (Brug.).

Loc. Chagos Archipelago.

Coetivy I.

A very abundant species in Eastern seas.

426. *Cardita cooperi*, sp. nov. (Plate 5. fig. 11.)

C. testa trapezoidea, solidula, alba, æquivalvi, valde inæquilaterali; umbonibus perobliquis, contignis; lunula parva, superficie omni longitudinaliter multicostata; costis ad 20, obliquis, crassiusculis, regulariter echinosquamatis, interstitiis spiraliter arcte rudi-striatis; margine dorsali antice fere reeto, subquadrate declivi marginem ad ventralem, postice multum abbreviato, pagina intus alba; cardine incrassato, normali; sinu palliali distineto, haud sinuoso, margine rudi-denticulato.

Alt. 19, diam. 14, long. 20 mm.

Loc. Saya de Malha Banks: Station C 2, 125 fathoms, broken shell-rubble.

Though not found in perfect condition, this *Cardita* is seen at once to be not exactly comparable with any of its congeners; the umbones are very inclined posteriorly, and the echinulate ribs, twenty in number, are noteworthy. I name this shell in honour of Mr. C. Forster Cooper, attached to the expedition of H.M.S. Sealark.

Family **Cyprinidæ.**427. *Isoocardia (Meiocardia) moltkiana* (Chemn.).

Loc. Saya de Malha Banks: Station C 15, 55 fathoms, on loose *Lithothamnia*-rubble.

428. *Libitina guinaica* (Lam.)=[*Cypriocardia*, Lam.].

Loc. Chagos Archipelago.

Family **Lucinidæ.**429. *Diplodonta globosa* (Forskål).

Loc. Cargados Carajos: Station B 3, 30 fathoms, sandy.

430. *Lucina (Codakia) exasperata*, Reeve.

Loc. Chagos Archipelago: Diego Gareia, Baraehois Maurice.

Sometimes confounded with *L. (Codakia) tigerina* (L.), a species of the Western Hemisphere.

431. *Lucina (Codakia) interrupta*, Lam.

Loc. Chagos Archipelago.

432. *Lucina (Codakia) punctata* (L.).

Loc. Chagos Archipelago.

Family **Galeommidæ.**433. *Galeomma splendida*, Desh.

Loc. Chagos Archipelago: Egmont Recf.

A variety, not quite typical. Extends to the Philippine Isles.

434. *Barclayia incerta*, Desh.

Loc. Cargados Carajos?

Considered by Fischer a subgenus of *Scintilla*, and originally described by Deshayes from I. Bourbon specimens.

The locality is given with slight doubt. Only one specimen occurred.

Suborder ii. TELLINACEA.

Family Tellinidæ.

435. *Tellina (Tellinella) rugosa*, Born.

Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.

436. *Tellina (Arcopagia) robusta*, Hanley.

Loc. Seychelles: Station F 6, 44 fathoms.

Only very young, but probably referred here.

437. *Tellina (Arcopagia) scobinata*, L.

Loc. Amirantes: Station E 21, 30 fathoms, *Halimeda*- and *Lithothamnia*-rubble.

Chagos Archipelago.

Family Donacidæ.

438. *Donax (Latona) abbreviatus*, Lam.

Loc. Coetivy I.

439. *Donax (Latona) faba*, Chemn. (= *radians*, Lam.)

Loc. Coetivy I.

Family Mesodesmatidæ.

440. *Paphia glabrata*, Desh.

Mesodesma glabratum, Lam. Encycl. pl. 257. fig. 3.

Loc. Amirantes: S. Joseph I.

441. *Paphia trigona*, Desh.

Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.

Suborder iii. VENERACEA.

Family Veneridæ.

442. *Circe scripta* (L.).

Loc. Cargados Carajos: Stations B 7, 29 fathoms, B 16, 30 fathoms, weed or sandy.

Amirantes: Station E 9, 34 fathoms, shell-rubble &c.

Seychelles: Stations F 2, 31 fathoms, shell-rubble &c.; F 3, 39 fathoms, hard sand.

Mostly of the plain, unicolorous variety *albida*.

443. *Crista pectinata* (L.).

Loc. Seychelles; Praslin I.

Chagos Archipelago: Diego Garcia, Barachois Maurice.

444. *Crista gibbia* (Lam.).

Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.

445. *Lioconcha picta* (Lam.).

Loc. Cargados Carajos: Station B 9, 30 fathoms, broken shell, with coral-lumps.

Seychelles: Station F 2, 31 fathoms, on coral, sand, and *Lithothamnia*-rubble.

446. *Callista amirantium*, sp. nov. (Plate 4. fig. 12.)

C. testa convexa, laevi, tenui, nitida, æquivalvi, inæquilaterali, hie illie pallide et leniter bi- vel tri-rubo-radiata, aliter unicolore, undique concentrice arete costulata; umbonibus prominulis, contiguis; lunula parva; margine dorsali postice leniter declivi, ventrali fere rotundato, antice brevi; pagina interna albo-straminea, laevi, margine lævigate; cardine normali.

Loc. Amirantes: Station E 9, 34 fathoms, among Polyzoa and shell-rubble.

Alt. 18, lat. 21, diam. 12 mm.

Several examples of a moderate-sized, convex, light *Callista*, smoothish, fairly shining, evenly concentrically closely ribbed, the ribs narrow and close, the surface palest yellow, ornamented obscurely with faint reddish rays, which become obsolete in the centre of the shell. The umboes are contiguous and prominent, the lunule small, hinge that of a normal *Callista*, while within the surface is whitish straw-colour and very smooth.

447. *Callista costata* (Chemn.).

Loc. Cargados Carajos: 30 fathoms.

448. *Caryatis laeta* (Chemn.).

Loc. Amirantes: Station E 16, 30 fathoms, *Lithothamnia*-rubble.

Not quite typical in form, but probably referable to this species.

449. *Venus (Chione) lamarckii*, Gray.

Loc. Cargados Carajos: Stations B 7, B 8, B 9, 30 fathoms, weed, broken shell, and coral bottom; B 15, 30-33 fathoms, sandy; B 17, 30 fathoms, shell-rubble.

Amirantes: Station E 8, 33 fathoms, hard sand.

450. *Venus (Chione) marica*, L.

Loc. Providence I.: Station D 1, 39 fathoms, dead and encrusted coral bottom.

451. *Venus (Chione) scabra*, Hanley.

Loc. Saya de Malha Banks: Station C 15, 35 fathoms.

A form allied to *C. subnodulosa*, Hanley, from Australia

452. *Venus (Omphalocladrum) toreuma*, Gould.

Loc. Cargados Carajos, 30 fathoms.

Suborder iv. CARDIACEA.

Family Cardiidæ.

453. *Cardium (Trachycardium) leucostoma*, Born.

Loc. Chagos Archipelago: only dead, disassociated valves.

454. *Cardium (Trachycardium) maculosum*, Wood.

Loc. Amirantes: Station E 16, 39 fathoms, with the next species.

455. *Cardium (Trachycardium) mauritianum*, Desh.

Loc. Amirantes: Station E 16, 39 fathoms, among *Lithothamnia*-rubble.

Omitted, curiously enough, from von Martens's Mauritian and Seychelles Catalogue.

456. *Cardium (Trachycardium) serricostatum*, M. & St.

Cardium (Trachycardium) serricostatum, Melvill & Standen, Proc. Linn. Soc. Lond., Zool. vol. xxvii. (1899) p. 191, pl. 11, fig. 20.

Loc. Seychelles: Station F 6, 44 fathoms, sand.

One specimen, agreeing with the type, which was dredged off Murray Island, Torres Straits (*A. C. Haddon*). The deeply excavate interstices and squarely set serrated ribs are noticeable.

457. *Cardium (Trachycardium) transcendens*, M. & St.

Cardium (Trachycardium) transcendens, Melvill & Standen, Proc. Linn. Soc. Lond., Zool. vol. xxvii. (1899) p. 191, pl. 11, fig. 21.

Loc. Amirantes: Station E 21, 30 fathoms, among quantities of *Halimeda*- and *Lithothamnia*-rubble.

A beautiful *Trachycardium*, amply distinguished by its very fine longitudinal ribs, nearly sixty in number, and bright coloration.

458. *Cardium (Papyridæ) australe*, Sowb. (= *pulchrum*, Reeve.)

Loc. Cargados Carajos: Stations B 9, 30 fathoms, broken shell and coral lumps; B 17, 30 fathoms, shell-rubble.

459. *Cardium (Fragum) simillimum*, Smith.

Loc. Saya de Malha Banks: Stations C 2, 123 fathoms, C 4, 150 fathoms, on broken shell and rough bottom.

A very delicate, elegant species, of the same character as *C. (Fulvia) peramabilis*, Dall *, from the W. Indies and Florida ('Blake' Expedition), or *C. (Fragum) 100-liratum*, Melv. & St., from the Persian Gulf (*Townsend*).

460. *Cardium (Fragum) crenelloides*, sp. nov. (Plate 5. fig. 13.)

C. testa alba, papyracea, inflata, subquadrata, æquivalvi, inæquilaterali; margine dorsali postice recto, antice rapide declivi, margine postico oblique expanso ventralem apud marginem, latere antico subangulato; umbonibus tumidis, quam maxime contiguis; superficie undique longitudinaliter delicatissime costulata; costis 38-40, arctissime squamatis, squamis sæpe evanidis, postice breviter minute spinulosis.

Alt. 8, lat. 9, diam. 6 mm.

Loc. Cargados Carajos: Station B 20, 28 fathoms, coarse coral-rubble bottom.

Two examples, perfect, and differing only in size, of a pure white, fragile, papyraceous shell, trapezoid in form, and very swollen, particularly at the umbones, which are closely approximate to each other. The whole surface is many-ribbed longitudinally, with oblique costæ, thirty-eight to forty in number; these are closely sealed, and shortly spinulose posteriorly. The superficial likeness in form to a *Crenella* suggests the specific name.

461. *Cardium (Fragum) roseolum*, sp. nov. (Plate 5. fig. 14.)

S. testa minuta, æquivalvi, inæquilaterali, fere squarrosa, tumida, rosea; margine dorsali recto, postice abbreviato, ventrali cum dorsali parallelo, antice rotunde breviter expanso; umbonibus contiguis, superficie omni delicatissime costulata; costis longitudinalibus obliquis ad 40, arctissime squamatis, squamis regularibus, fere imbricatis, haud evanidis.

Alt. 7, lat. 6, diam. 5 mm.

Loc. Cargados Carajos: Station B 20, 28 fathoms, with the preceding.

Nearly allied to *C. crenelloides*, described above, but of different form, being of a squarrose contour, the posterior margin much shortened, the ventral and dorsal well-nigh parallel. The whole surface is closely scaly-ribbed; these ribs are 40 in number, of much the same character as exists in *crenelloides*, save that they appear more persistent and imbricate, not being of so delicate a substance. The margin of the valves also is more deeply serrate or pectinate than in the allied species, of which, indeed, it might be considered a variety, but the great differences of form and colour—a clear rose—have prompted the differentiation.

462. *Cardium (Lævicardium) biradiatum*, Brug.

Loc. Amirantes: Station E 9, 34 fathoms, among Polyzoa, &c.

Seychelles: Station F 2, 31 fathoms, coral and shell-rubble.

Extends in range to the Philippine Isles.

* Bull. Mus. Comp. Zool. Harvard (1885-86), p. 269, pl. 4. fig. 7.

463. *Cardium (Ctenocardia) fornicatum*, Sowb.

Loc. Cargados Carajos: Stations B 9 and B 17, both 30 fathoms, shell-rubble.

Seychelles: Station F 5, 44 fathoms, coral-rubble.

A rare and exquisite form which has lately been dredged in considerable quantity in the Gulf of Oman, off Maskat (Muscat), by Mr. F. W. Townsend. Originally described from Erythræan waters.

464. *Cardium (Ctenocardia) fragum*, L.

Loc. Amirantes: S. Joseph I.

Chagos Archipelago.

465. *Cardium (Ctenocardia) nivale*, Reeve.

Loc. Coetivy I.

Extends in range from the Red Sea to the Philippine Isles.

466. *Cardium (Ctenocardia) victor*, Angas.

Cardium victor, Angas, Proc. Zool. Soc. Lond. 1872, p. 612, pl. 42, fig. 9.

Loc. Cargados Carajos: Stations B 9, 30 fathoms, among broken shell and coral; B 20, 28 fathoms, coral-rubble.

Providence I.: Stations D 3, 29 fathoms, coral-rock; D 4, 50–78 fathoms.

A brilliant and magnificent species, also noted from the Maldives and Laccadive Isles (*Stanley Gardiner*). From D 4 (*v. suprà*) came one large and fine specimen peculiarly oblique in form, which might be characterized as var. *pulcherrima*.

467. *Hemicardium (Lunulicardia) subretusum*, Sowb.

Loc. Amirantes: Station E 11, 25–80 fathoms, on hard rough ground.

Family Tridacnidæ.

468. *Tridacna elongata*, Lam.

Loc. Chagos Archipelago.

469. *Tridacna gigas*, Lam.

Loc. Chagos Archipelago.

Only young shells collected. .

Family Chamidæ.

470. *Chama fibula*, Reeve.

Loc. Cargados Carajos: Station B 24, 30 fathoms, sand and weed.

Amirantes: Stations E 1, 29 fathoms, E 13, 20–25 fathoms, rubble.

Seychelles: Station F 9, 37 fathoms, hard sand.

Chagos Archipelago.

Mostly in young or imperfect condition, but they seem to assimilate, and are probably referable as above.

471. *Chama imbricata*, Brod.

Loc. Cargados Carajos: Station B 9, 30 fathoms, broken shell with coral-lumps.

Chagos Archipelago: Salomon.

Specimen dead, or entirely encrusted with nullipore.

472. *Chama lazarus*, L.

Loc. Amirantes: Stations E 9, 34 fathoms, E 10, 22 to 85 fathoms, rubble.

Both the yellow-tinted and ordinary form of this beautiful *Chama* occurred.

Suborder v. MYACEA.

Family Psammobiidæ. [Gariidæ.]

473. *Asaphis deflorata* (L.). [= *Capsa rugosa*, Lam.]

Loc. Chagos Archipelago: Diego Garcia, Barachois Maurice.

I have found this species in the West Indian region not uncommonly; for I consider *A. dichotoma*, Ant., and *coccinea*, Mart., only New-World forms of a world-wide species. *A. violaceus*, Forsk., from the Red Sea, is also probably the same, and also *A. tahitensis*, Reeve, from Polynesia.

Family Gastrochænidæ. [Rocellariidæ.]

474. *Rocellaria (Spengleria) mytiloides* (Lam.). [Gastrochæna.]

Loc. Providence I: Station D 4,50- 78 fathoms, coral-rubble.

Suborder vi. ANATINACEA.

Family Verticordiidæ.

475. *Verticordia deshayesiana*, Fischer.

Loc. Saya de Malha Banks: Station C 2, 125 fathoms.

A fine example of this abyssal species, which has also been found recently to occur in the Gulf of Oman, having been dredged at 156 fathoms by Mr. F. W. Townsend.

BIBLIOGRAPHY.

1840. Dufo, H.—Observations sur les Mollusques terrestres, marines et fluviatiles, des îles Seychelles et des Amirantes. Ann. de Sci. Nat. série 2, Zool. xiv. (1840), pp. 45–80, 166–221.
1843. Sganzin, Vict.—Catalogue des Coquilles trouvées aux îles de France, de Bourbon et de Madagascar. Mém. Soc. Hist. Nat. Strasbourg, vol. iii. pt. 2.
1863. Deshayes, G. P.—Catalogue des Mollusques de l'île de la Réunion (Bourbon), aux L. Maillard's Notes sur l'île de la Réunion. Paris. 144 pp. 14 pl. (28–41).
- 1871–75. Nevill, Geoffrey & Hugh.—Descriptions of new Mollusca from the Easter Regions.
Part I. Journ. As. Soc. Bengal, xxxix. part 2 (1871), pp. 1–11, pl. 1.
Part II. Journ. As. Soc. Bengal, xliv. part 2 (1875), pp. 83–104, pls. 7, 8.
1877. Lienard, Elisé.—Catalogue de la Faune malacologique de l'île Maurice et de ses dépendances. Paris, 1877. 115 pp.
1878. Nevill, Geoffrey.—Hand-List of Mollusca in the Indian Museum, Calcutta.—Part I. *Gastropoda, Pulmonata, Neurobranchia*.
1880. Möbius, K., Eichter, F., von Martens, E.—Beiträge zur Meeresfauna der Insel Mauritius und der Seychellen. Mollusken bearbeitet von Prof. E. von Martens, mit 4 Tafeln. Berlin, 4°.
1884. Smith, Edgar A.—Report on the Zoological Collections made in the Indo-Pacific Ocean during the Voyage of H.M.S. 'Alert,' 1881–1882. Mollusca, by E. A. Smith.
1893. Dautzenberg, Philippe.—Contribution à la Faune malacologique des îles Sécherelles. Bull. Soc. Zool. France, xviii. pp. 78–84 (Paris).
1893. Sowerby, George B.—Descriptions of new Species of Shells, principally from the Mauritius. P. Malac. Soc. Lond. i. pp. 41–44, figs.
1894. Dautzenberg, Ph.—Liste de Mollusques marins provenant des îles Glorieuses. Bull. Soc. Ouest France, v. pp. 99–121, map.
1896. Smith, Edgar A.—Descriptions of new Deep-Sea Mollusca. Ann. & Mag. Nat. Hist. ser. 6, xviii. pp. 367–375.
1901. Jameson, H. L.—On the Identity and Distribution of the Mother-of-Pearl Oysters, with a Revision of the Subgenus *Margaritifera*. Proc. Zool. Soc. Lond. 1901, i. pp. 372–394.
1902. Voeltzkow, A.—Die von Aldabra bis jetzt bekannte Flora und Fauna. Abh. Senckenberg. Ges. xxvi. pp. 539–565.
1902. Von Martens, E.—Einige neue Arten von Meer-Conchylien aus den Sammlungen der deutschen Tiefsee Expedition. Sitzungsb. der Gesellsch. naturf. Freunde zu Berlin, pp. 237–244.
1903. —— Die beschalten Gastropoden der deutschen Tiefsee Expedition, 1898–99. Carl Chun. Vol. vii. pp. 1–146, pls. 1–5.
1903. Smith, E. A.—Marine Mollusca. In Fauna and Geography of the Maldive and Laccadive Archipelagoes, vol. ii. pp. 589–630, pls. 35, 36.

N.B.—For a fairly complete list of publications on the Molluscan Fauna of the more northern portions of the Indian Ocean, Persian Gulf, Andaman Islands, &c., *vide* Proc. Zool. Soc. Lond. 1901, ii. pp. 331–334; and also *ib.* 1906, pp. 787–791.

EXPLANATION OF PLATE 5.

- Fig. 1. *Euchelus providentiae.* $\times 3.$
Fig. 2. *Solariella aquamarina.* $\times 2.$
Fig. 3. " *incisura.* $\times 4.$
Fig. 4. " *(Conotrochus) sayademalhana.* $\times 4.$
Fig. 5. *Clanculus mauritanus.* $\times 2.$
Fig. 6. *Leptothyra gardineri.* $\times 3.$
Fig. 7. *Eglisia elegans.*
Fig. 8. *Triphora coetiviensis.*
Fig. 9. *Dentalium gardineri.*
Fig. 10. " *gemmaiparum.*
Fig. 11. *Cardita cooperi.*
Fig. 12. *Callista amirantium.*
Fig. 13. *Cardium (Fragum) crenelloides.* $\times \frac{3}{2}.$
Fig. 14. " *(—) roseolum.* $\times 3.$
Fig. 15. *Pecten perfectus.* $\times \frac{3}{2}.$